



SOCIAL DEVELOPMENT DIVISION

# Social protection and the informal economy: What do we know?

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# Table of Contents

1. Introduction.....	5
2. The informal economy .....	7
2.1. Informality and social protection: a conceptual framework .....	9
3. The informal economy in Asia and the Pacific .....	14
4. Systematic review methodology .....	17
5. Social protection and the informal economy. A synthesis of evidence .....	18
5.1. Evidence from Asia and the Pacific.....	18
5.2. Evidence from Latin America.....	20
5.3. Evidence from Africa.....	24
6. Discussion.....	24
7. Conclusion .....	28
References.....	30

# Abstract

This paper takes stock of the literature that examines how the recent expansion of contributory and non-contributory social protection programmes in low- and middle-income countries in Asia and the Pacific, Latin America and Africa has influenced the conditions and incentive mechanisms that underpin work choices in the informal economy. In reviewing the literature, we adopt a systematic review methodology to identify studies, which through experimental, quasi-experimental, or qualitative research designs examine modalities and design features of these policies and how they impact the transition of formal (or informal) workers to the informal (or formal) economy. Overall, we find that the existing evidence base is too limited to draw definitive conclusions about ‘how’ the expansion of social protection systems is impacting the informal economy. While certain policy reforms to contributory social insurance schemes have produced desirable incentives for workers to formalise, other types of non-contributory programmes seem to discourage workers from entering the formal economy. These effects are nonetheless small and among certain populations. The study underscores the need for further research to better understand the conditions that seem to be detrimental for formalization and the mechanisms that underpin these effects; and how policy reforms could mitigate these unintended outcomes while procuring social justice and equity.

**Key words:** Informal economy, social protection, Asia and the Pacific, systematic review

**JEL classification:** I38, J46, O53, O54, O55

## Introduction

A key concern related to the functioning of labour markets is how social protection policies can impact the conditions and incentive mechanisms that underpin the informal economy. This concern is in particular relevant among low- and middle-income countries where informal employment represents between 80–90 and 35–60 per cent of total non-agriculture employment, respectively (Niño-Zarazúa 2019). In Asia and the Pacific region, approximately 68 per cent of the working age population, or approximately 1.3 billion people, is informally employed. These levels are the world’s second largest, only after sub-Saharan Africa (ILO 2018).

Workers in the informal economy perform productive activities outside regulatory frameworks and conventional labour standards; usually do not pay taxes on income and capital, or contribute to social security systems, but neither do they benefit from contributory social insurance benefits or tax credits (Niño-Zarazúa and Santillán-Hernández 2021). Consequently, they are often subject to precarious working conditions, exploitation and hazards, and are exposed to, and unprotected from, idiosyncratic and covariate risks associated with economic and political business circles, weather and health shocks as well as life-course contingencies (Mehrotra and Biggeri 2007; Muntaner et al. 2020; La Porta and Shleifer 2014).

Over the past two decades, social protection has become an integral part of development policy strategies in Asia and the Pacific. Currently, approximately 44 per cent of the population in the region is covered by at least one social protection benefit (ILO 2021), although there is a significant variation in the effective coverage<sup>1</sup> across the region, as well as among statutory entitlements that are distributed among the eligible populations (see Table A1 in in Appendix II).

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<sup>1</sup> *Effective coverage* captures the extent to which statutory entitlements are actually distributed among the eligible populations, for example, those individual in retirement age and currently receiving a pension, or those who have

In this study we follow ESCAP (2018, p. 33) and adopt a definition of social protection that includes “*policies and programmes designed to reduce and prevent poverty, vulnerability and social exclusion across the life cycle of an individual, empowers women, men and children to reach or maintain an adequate standard of living and good health throughout their life.*” These policies and programmes take various forms, including contributory and non-contributory schemes, which aim to protect, within national legislations, vulnerable populations through policies that are covered by the ILO Convention No. 102, namely: child and family benefits, maternity protection, unemployment support, employment injury benefits, sickness benefits, health protection, old-age benefits, disability benefits and survivors’ benefits.

Contributory schemes include old-age pensions, disability benefits and survivors’ pensions; sickness and occupational injuries benefits; maternal and paternity benefits and health insurance. Non-contributory (tax financed and often aid-supported) schemes include, amongst others, conditional and unconditional cash transfers, non-contributory social pensions, and public health insurance schemes (ILO 2017, World Bank 2021). As discussed in Section 2, taking an inclusive and broader perspective to building social protection systems is key, especially in contexts in which large sections of the population depend on the informal economy and by default excluded from compensatory support that contributory schemes provide, in the event of life-course contingencies.

A growing evidence showing generally positive effects of these programmes on various dimensions of wellbeing have supported the adoption and expansion of social protection systems in the Asia-Pacific region and beyond (Baird et al. 2013; Barrientos and Niño-Zarazúa 2010; Bastagli et al. 2019; Hillier-Brown et al. 2019; Kabeer and Waddington 2015; Lagarde, Haines, and Palmer 2007; Malerba and Niño-Zarazúa Forthcoming; Owusu-Addo and Cross 2014). A much scarcer literature has examined the effects of contributory and non-contributory schemes on the informal economy. This paper provides a synthesis of this literature and documents the extent to which the recent extension of social protection coverage has influenced the conditions and incentive mechanisms that underpin work choices in the informal economy. The analysis pays attention to the modalities and design features of these policies and how they may impact the transition of formal (or informal) workers to the informal (or formal) economy.

Overall, we find that social protection programmes alone are insufficient policy tools to promote the transition from the informal to the formal economy. While certain policy reforms to contributory schemes have produced desirable incentives for workers to formalise, a strand of the literature underscores that certain types of non-contributory programmes could discourage workers from entering the formal economy. These effects are nonetheless small and concentrated among certain populations. The existing evidence base remains limited and truncated towards a small number of countries to draw definitive conclusions about ‘how’ to extend social protection coverage to informal workers and vulnerable populations without generating two-tier systems and unintended outcomes, while procuring social justice.

The remainder of the paper is organised as follows: Section 2 introduces the concept of the informal economy and how it relates to social protection systems. The section also presents a conceptual framework that links the types of work in the informal and formal economies with the level of accessibility to social protection systems via formal arrangements. The section also provides a discussion on the scale and conceptual complexity associated with the informal economy. Section 3 presents a brief overview of the scale of the informal economy in Asia and the Pacific, paying attention to its composition by employment status and levels of education. Section 4 presents the systematic review methodology used to analyse the literature that focus on the intersection between contributory and non-contributory social protection schemes and the informal economy. Section 5 presents a synthesis of evidence, grouping the studies by world regions and types of policies. Section 6 presents a

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a benefit guaranteed via contributions or statutory laws, but who are not currently receiving the entitlement (ILO 2021).

theory of change that facilitates the discussion on the mechanisms that underpin the main findings from the review while Section 7 concludes.

## The informal economy

The scale and persistence of the informal economy in low- and middle-income countries is a concern that has been at the centre of research and development policy debates since the pioneering work by Lewis (1954), which underscores the dual nature of labour markets and economic systems in developing countries. Subsequent work by Fields (1975), Hart (1973), Stiglitz (1976), among others, pinpoint this duality as catalytic of the ‘informal’ economy, which is characterised by low-productivity sectors and tradeable goods and services that are produced at the margin of regulations, and without *direct* link to tax and social protection systems (N. V. Loayza 2016; Maloney 2004; La Porta and Shleifer 2014).<sup>2</sup> Consequently, workers and firms operating in the informal economy have limited access to social protection benefits, tax credits and financial markets.

Economic considerations such as the burden of taxes and social security contributions, barriers to entry markets as well as discriminatory norms against ethnic and religious minorities, women and other vulnerable groups can exacerbate the dualism of economic systems, making informal work a strategy of last resort for large shares of vulnerable populations (Chen et al. 2006; Gulyani and Talukdar 2010). Institutional factors such as corruption and a weak state capacity may also affect the incentives for workers and firms to participate in the formal economy (Schneider, Buehn, and Montenegro 2010, Perry et al 2007).

The complexity and multiple roots of the informal economy underscores its heterogenous nature (Fields 2018; Marcouiller et al. 1997; Tokman 1989). Indeed, a growing literature emphasizes the intrinsic dualism of the informal economy, in which a lower-tier segment, with the least-endowed workers and low marginal productivity of labour, engages in the informal economy as a survival strategy, whereas for an upper-tier segment of the market, the entry to the informal economy may reflect strategic decisions to avoid the burden of taxes and social security contributions (Canelas 2019; Cunningham and Maloney 2001; Günther and Launov 2012, La Porta and Shleifer 2014; Loayza 2018). Other studies underscore the costs that corruption and the red tape of bureaucracy cause to formal firms, as a significant cause of informality (Gajigo and Hallward-Driemeier 2012a). Evidence also shows that the informal economy can coexist with ‘formal’ enterprises and households hiring workers off-the-books often gravitating between formal and informal arrangements (Ulyssea 2020).

Understanding the heterogenous roots of informality is critical, especially in contexts where social protection systems have been extending their coverage through non-contributory schemes among populations, which due to their work status, do not access social security benefits. For instance, while only a small fraction of the population at the lowest quantile of the income distribution is covered by contributory social insurance schemes in South-East Asia and South and South-West Asia (approximately 2 and 6 per cent, respectively), larger shares of these populations (approximately 58 and 31 per cent, respectively) have access to non-contributory schemes (see Table 1). The size of transfer benefits varies substantially both between contributory and non-contributory social protection schemes as well as across the income distribution. Households in the bottom quintile of the income distribution receive on average between 20 and 80 cents of a US dollar in daily per capita transfers from non-contributory schemes. In contrast, households at similar levels of income benefit directly or indirectly from per capita social insurance benefits that range between one and two US dollars a day, although the same type of social protection benefits are substantially larger in the top quintile of the income distribution, reflecting significant differences in labour productivity, earnings, and social insurance contributions (see Niño-Zarazúa 2019 and Table 1).

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<sup>2</sup> We emphasize the direct link between the informal economy and tax and social protection systems. Workers in the informal economy contribute *indirectly* to social protection systems via VAT, property and other taxes. They are also often eligible to receive benefits from “non-contributory” social protection schemes.

Table 1 also sheds light on the large share of the population who are neither benefiting from contributory schemes because of their status as informal workers, nor benefiting from non-contributory schemes, which often target the poorest populations: the problem of the ‘missing middle’. It is important to note here that this is not a concern exclusively limited to those in the middle of the income distribution, as a considerable proportions of populations, regardless of their income status, remain excluded from any form of social protection benefits, especially among the poorest.<sup>3</sup>

**Table 1. Coverage and transfer size of contributory (social insurance) and non-contributory (social assistance) schemes by income quintiles**

Coverage 1/	Non-contributory social assistance					Contributory social insurance				
Asia and the Pacific	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
Pacific	7.70	6.94	6.65	5.60	5.30	10.51	12.96	12.80	13.25	13.60
East and North-East Asia	77.46	70.65	63.93	58.15	52.47	42.99	44.24	44.17	44.85	40.96
South and South-West Asia	30.94	25.70	21.56	17.95	13.19	5.90	7.45	8.50	9.96	11.74
North and Central Asia	37.84	31.62	29.95	26.25	23.02	40.80	40.16	38.85	38.35	36.18
South-East Asia	58.32	48.95	41.51	32.90	22.96	2.17	3.90	5.90	8.81	14.49
<b>Other world regions</b>										
Sub-Saharan Africa	31.08	26.97	24.16	19.76	14.26	5.41	4.54	4.88	5.47	6.36
Latin America & Caribbean	63.72	53.33	44.35	34.92	20.67	11.05	13.70	15.48	17.19	19.03
Middle East & North Africa	44.90	35.81	31.73	27.92	18.25	21.39	17.65	18.38	20.06	22.61
<b>Transfer size 2/</b>										
<b>Asia and the Pacific</b>										
Pacific	0.27	0.54	0.56	0.65	2.56	1.14	1.81	1.68	2.27	5.86
East and North-East Asia	0.66	1.02	1.19	1.22	1.41	1.97	3.69	5.44	7.13	10.28
South and South-West Asia	0.28	0.29	0.33	0.41	0.72	0.85	1.43	1.76	2.41	3.81
North and Central Asia	0.82	0.95	1.12	1.27	1.53	1.46	2.21	2.71	3.26	4.10
South-East Asia	0.22	0.23	0.24	0.28	0.36	1.38	2.46	2.69	3.51	6.26
<b>Other world regions</b>										
Sub-Saharan Africa	0.98	0.32	0.36	0.42	0.60	2.51	1.14	1.11	1.62	2.75
Latin America & Caribbean	0.53	0.43	0.46	0.52	0.92	2.82	3.22	4.42	5.84	13.36
Middle East & North Africa	0.34	0.19	0.22	0.35	0.42	3.30	1.84	2.17	2.50	4.51

Source: Authors’ calculations, based on World Bank (2021) ASPIRE database.

Sample restricted to the last observation of each country.

1/ Coverage measures the percentage of population participating, directly or indirectly, in non-contributory social assistance and contributory social insurance schemes.

2/ Transfer size measures the average per capita transfer of non-contributory social assistance and contributory social insurance schemes among beneficiaries in daily per capita US\$ adjusted by purchasing power parity (PPP). The colour scale captures the distribution of coverage and transfer size, from dark green capturing the highest values to dark red capturing the lowest values, in the corresponding distribution. 'n.a.' stands for the not available information

Changes in the eligibility criteria as well as in the generosity of contributory and non-contributory social protection schemes can change the incentive mechanisms underlying work choices among those

<sup>3</sup> To illustrate, in the Pacific and South and South-West Asia regions, only 18% and 37% of the poorest 20% populations have access to contributory and non-contributory transfers combined, coverage levels similar to countries in sub-Saharan Africa.



engaged in the informal economy. As discussed in Section 5. below, a scant literature has examined the extent to which non-contributory schemes have impacted informal employment in a small number of countries, with some studies reporting an increase in informal employment as a result of expanding certain types of non-contributory schemes (e.g. Bobba et al. 2020; Bosch and Campos-Vazquez 2014; Camacho et al. 2013; Canelas and Niño-Zarazúa 2021, Levy 2018), while others find no effects on informality (Azuara and Marinescu 2013; Campos-Vázquez and Knox 2013; Cruces and Bérangolo 2013). We return to these considerations in Section 6 below.

## 2.1. Informality and social protection: a conceptual framework

The complexity of the phenomenon of informality is compounded by the multiplicity of concepts and methods used in the literature. In this paper, we follow the ILO (2002, 2015, 2021) and adopt the concept of *informal economy* to approximate the phenomenon of informality in Asia and the Pacific and other world regions. While the informal economy as a concept has not yet been strictly defined in statistical terms,<sup>4</sup> its relevance lies in that first, it facilitates a direct link between all forms of informal productive activities and contributory and/or non-contributory social protection schemes, and second, it is conceptually a more inclusive definition than other concepts such as informal sector or informal employment, which limit the phenomenon of informality to firms in the case of the former, and workers in the case of the latter.<sup>5</sup>

According to the ILO (2002, p. 14) resolution on decent work and the informal economy, and the subsequent ILO (2015, p. 25) Recommendation No. 204 concerning the transition from the informal to the formal economy, the informal economy is defined as “all economic activities carried out by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements.”

For our analysis, the notion of ‘formal arrangements’ is key, as it encapsulates the legal frameworks that regulate work practices, production standards, and individual rights and entitlements that are linked to social protection systems. The ILO (2021, p. 10) refers specifically to formal arrangements as “procedures established by the government to regulate the actions and functions of economic units and workers, as well as protecting their legal rights. Being covered by formal arrangements implies that the productive activities are recognized by the legal administrative framework arrangements of a country in practice and therefore are associated with a degree of protection as well as obligation. Not being covered implies an increased economic or/and personal risk carried by the worker and the economic unit.” Those outside ‘formal arrangements’ are treated implicitly as a residual, which are relegated to the informal sector.

We note, however, that this definition is limited by its narrow focus on the entitlements and obligations that derive from transactions between workers and employers in the formal economy. As we discussed below in Section 4 and Section 5, formal arrangements can also be observed in the context of the informal economy in a growing number of low- and middle-income countries, which have introduced, for example, non-contributory old age pensions, and health insurance schemes that provide protection to vulnerable populations, irrespective of the formal arrangements taken by workers or economic units. This is illustrated by the conceptual framework presented in Figure 1, which depicts the types of work

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<sup>4</sup> For a comprehensive account of current discussions on statistical principles and protocols to measure the informal economy, see ILO (2021).

<sup>5</sup> The ILO (1993) defined informal sector as “a group of production units comprised of unincorporated enterprises owned by households, including informal own-account enterprises and enterprises of informal employers, typically small and non-registered enterprises.” A decade later, the ILO (2003) introduced the concept of informal employment as “all remunerative work (i.e., both self-employment and wage employment) that is not registered, regulated or protected by existing legal or regulatory frameworks, as well as non-remunerative work undertaken in an income-producing enterprise”. Since informal workers do not have secure employment contracts and access to social protection benefits, a strand of the literature refers to informal employment as those workers that do not contribute to social security (Loayza, Servén, and Sugawara 2010).

observed in informal and formal economies, and the level of accessibility to contributory and non-contributory social protection schemes.

As shown on the right upper quadrant of Figure 1, only employers of formal sector enterprises, employees of the public sector and armed forces, employees, including casual and seasonal workers of formal enterprises, and independent workers operating in the formal economy have access to contributory social insurance schemes via formal arrangements as defined by the ILO (2021). Employers and employees of informal sector enterprises, workers hired off-the-books by formal sector enterprises as well as independent workers operating in the informal economy, can also access, at least partly, non-contributory schemes via formal (legal) arrangements that grant entitlements to specific populations on the basis of citizenship and their level of vulnerability, and which is depicted by the upper limit of the various forms of informal work distributed across the left lower quadrant of Figure 1.

There is a significant heterogeneity among these populations in terms of skills, labour productivity, wages and income, including social protection benefits, which is captured by the box plots of various types of formal and informal employment and the corresponding minimum and maximum values of the whisker horizontal lines that run from the cut-off point between the formal and informal economy, and which is represented in Figure 1 by the dotted vertical green line. It is important to point out that there are important dynamic transitions moving workers in and out of formal or informal employment, although these dynamics are more prevalent among workers with better prospects to achieve upward labour mobility (Gutierrez et al. 2019; Bosch, Goñi-Pacchioni, and Maloney 2012).

More recently, legal reforms in a growing number of low- and middle-income countries have laid down the legal principles to extend old-age pensions to all people above an age threshold, regardless of their current or past (formal or informal) working arrangements. For example, in Timor-Leste, the Decree-Law no. 19/2008 of 19 June 2008 enabled Support Allowance for the Elderly to provide a monthly benefit of approximately 60 US dollars to every person aged 65 and older. In other contexts, policy reforms have aimed to protect those in old age who are not already covered by contributory pension schemes. In Viet Nam, for instance, the 2009 Law on the Elderly grant the Social Assistance Benefit (category 1) to provide a pensions-tested grant of approximately 12 US dollars a month to those aged 80 and older who are not in receipt of a contributory pension.<sup>6</sup>

Similarly, several countries have moved towards introducing quasi-universal health coverage, via subsidies of insurance premiums of unprotected informal workers or through tax-financed health insurance schemes that provide coverage on the basis of citizenship. For example, Viet Nam and the Philippines have relied on premium subsidies to expand voluntary health insurance coverage with distinct design features and targeting modalities. In Viet Nam, the Social Health Insurance scheme offers different enrolment modalities and premium subsidies for different vulnerable populations.<sup>7</sup> It currently covers 90 per cent of the population. In the Philippines, the National Health Insurance Programme (NHIP) also provides differentiated membership modalities for workers in formal and informal employment (Querri et al. 2018; Bredenkamp and Buisman 2015). By the end of 2019, the NHIP covered 90 per cent of the Philippines' population, and the subsidised scheme for those in poverty, represented about 25 per cent of the population (Lagrada-Rombaua, Encluna, and Gloria 2021).

Other countries such as Thailand have resorted to government revenues to expand health insurance coverage for workers in the informal economy. Thailand's Universal Coverage Scheme (or 30-baht scheme) provides health coverage to all citizens outside the formal sector. It covers outpatient and inpatient services, including rehabilitation, palliative and long-term care (Li et al. 2011; Limwattananon

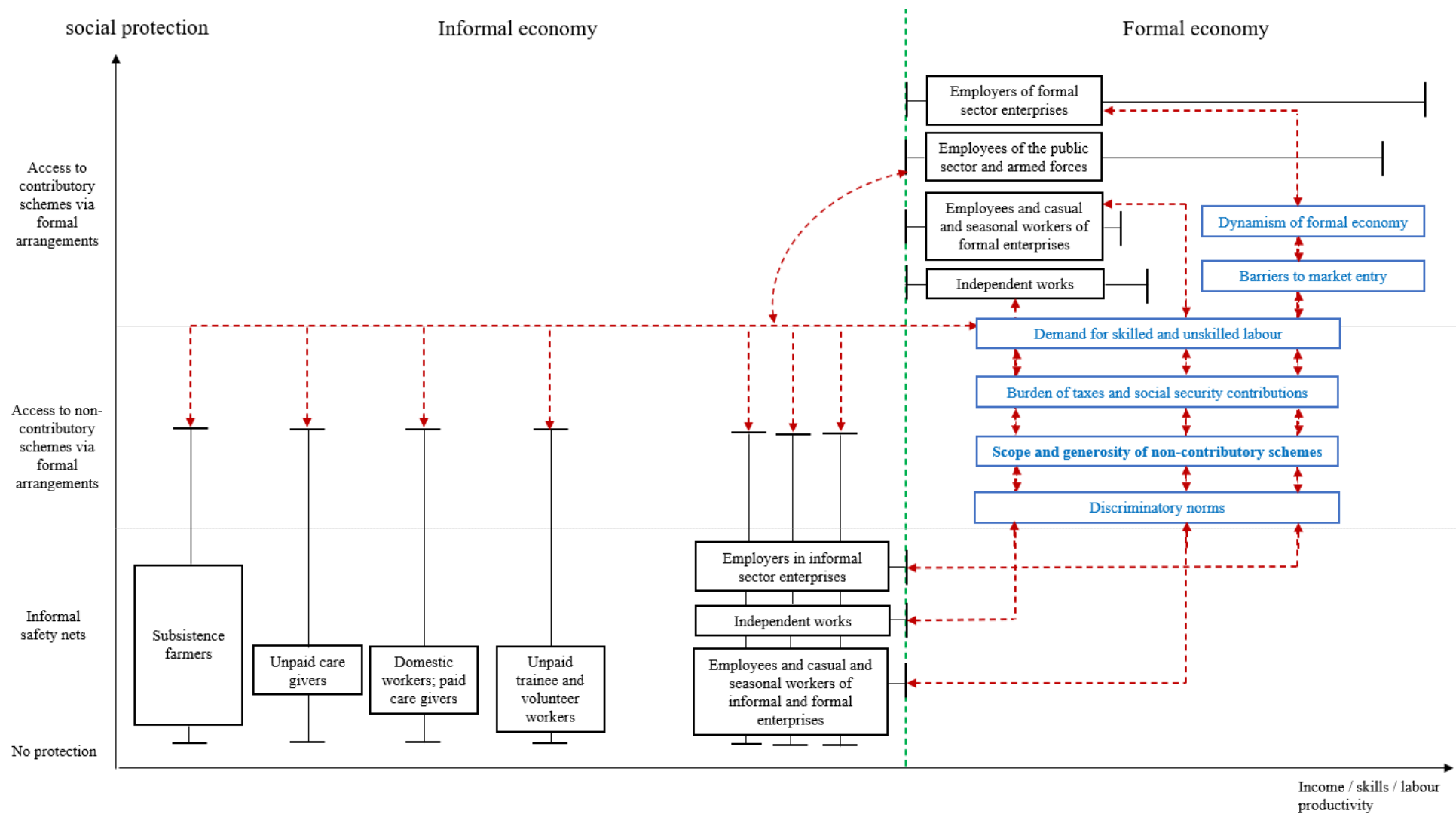
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<sup>6</sup> For a comparative perspective, see the social pensions database available at: <http://www.pension-watch.net/social-pensions-database/social-pensions-database--/>.

<sup>7</sup> Poor households, minorities and children under 6 receive insurance premium subsidies of 100 per cent; the 'near poor' receive premium subsidies of 70 per cent while pupils and students receive a 30 per cent premium subsidy. The benefit package includes ambulatory care, rehabilitation, advanced diagnostics, and curative services (Tangcharoensathien et al. 2011).

et al. 2015). It covers 47 million people or approximately 75 per cent of the country's population who are not covered by the Civil Servant Medical Benefit Scheme for government employees or the Social Health Insurance for formal private-sector employees (Tangcharoensathien et al. 2020).

**Figure 1. Social protection and types of work in the informal economy. A conceptual framework**



Source: Authors

While revenue-based approaches can be effective policy strategies to extend healthcare protection to informal workers and their families, they can be financially unsustainable for countries with limited revenue mobilisation capacity (Bredenkamp et al. 2015; Lagomarsino et al. 2012). Furthermore, a small groups of studies show that the presence of parallel health systems (contributory and non-contributory) can induce an extension of the informal economy if formal workers choose to move to the informal sector to avoid mandatory social insurance contributions (Wagstaff and Manachotphong 2012; Levy 2010).

Indeed, the scope, generosity and costs associated with contributory and non-contributory social protection schemes can influence work choices and the interchangeability between formal and informal forms of employment. This is depicted by the dashed doubled-arrow arc in Figure 1. These dynamics are more likely to be observed at the margin, and closer to the formal-informal cut-off point where workers have a minimum level of capital endowments, and where it is more likely to observe multidirectional transitions from formal to informal employment, from informal to formal employment, and also from one type of employment to another (Gutierrez et al. 2019; Tansel and Ozdemir 2019).

It is pertinent to keep in mind that certain work modalities are not included in conventional definitions of informality. For example, casual or seasonal workers that are hired ‘off-the-books’ by formal enterprises, without legal contracts and no access to social protection benefits, had not been considered in international labour conventions until 2003, when the ILO adopted the concept of informal employment at the 17th International Conference of Labour Statisticians (ILO 2003). Similarly, subsistence farming, care work, paid domestic workers and volunteer services are currently not considered by informal employment definitions. Thus, it is important to distinguish between all forms of *informal work* that underpin the informal economy, and the various forms that constitute *informal employment*.<sup>8</sup>

While informal employment is conducted in the labour market with the objective of generating income or profit, informal work is undertaken both to generate income or profit, as well as to produce goods for self-consumption, or provide care and assistance to vulnerable family members. This is important in the context of low- and middle-income countries, where these types of work can absorb large populations. For example, in India, approximately 227 million people living below US\$1.9 a day in rural areas dependent on subsistence agriculture.<sup>9</sup> Workers in subsistence agriculture are exposed to risks associated with farm activities that are usually not contemplated by social protection systems.<sup>10</sup>

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<sup>8</sup> According to the ILO Resolution concerning statistics of work, employment and labour underutilization, which was adopted by the Nineteenth International Conference of Labour Statisticians (ICLS) in October 2013, ‘work comprises any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for own use. Work is defined irrespective of its formal or informal character or the legality of the activity [...] The concept of work is aligned with the General production boundary as defined in the System of National Accounts 2008’ (ILO 2003, pp: 2-3). In contrast, persons in employment are defined as “those of working age who, during a reference period, were engaged in any activity to produce goods or provide services for pay or profit [...] For pay or profit refers to work done as part of a transaction in exchange for remuneration payable in the form of wages or salaries for time worked or work done, or in the form of profits derived from the goods and services produced through market transactions, specified in the most recent international statistical standards concerning employment-related income.” (ILO 2013, pp: 6).

<sup>9</sup> Authors’ own estimates based on a poverty line of \$1.9 per day at 2011 PPP, using survey data aggregates for 2011, available at World Bank’s PovcalNet: <http://iresearch.worldbank.org/PovcalNet/hoxme.aspx>

<sup>10</sup> It is important to note that certain types of non-contributory social assistance schemes that target the rural poor can partially mitigate the risks associated with subsistence agriculture. In India, for example, the Mahatma Gandhi National Rural Employment Guarantee Act guarantees by law the right for a waged job among adults in rural areas for at least 100 days in a financial year. The programme current benefit directly and indirectly over 106 million people or approximately 12% of India’s rural population. In China, the government extended in the early 2000s the Minimum Living Standards Scheme (Di Bao) to rural areas to address poverty and vulnerabilities of many engaged in subsistence agriculture. The programme current benefit over 35 million people, or approximately

Similarly, approximately 44 million people living below US\$1.9 a day in Asia and the Pacific region suffer from extreme forms of disability (Cuesta Leiva, López-Noval, and Niño-Zarazúa 2022), and therefore are likely to be dependent on others, usually family members, to perform basic daily activities.<sup>11</sup> Persons with disabilities are not only more likely to face discrimination and barriers to entry to the formal economy, but their caregivers are also more likely to work in the informal economy (Mizunoya and Mitra 2013). This is depicted by the left lower quadrant of Figure 1, which shows modalities of informal work that are not included in informal employment or informal sector definitions.

The box and whisker vertical lines capture the expected variation in the size of populations engaged in this type of informal work and the maxima and minima of protection that they may receive from non-contributory schemes. At the top of the income, skills or labour productivity distribution, workers can access contributory social protection benefits, whereas at the bottom of these distributions, increasing populations are being entitled to receive non-contributory social protection benefits on the basis of poverty and vulnerability status. Yet, Figure 1 also reflects the fact that irrespectively of whether informal workers are at the bottom or at the middle of the income, skills or labour productivity distribution, there is a large proportion of these populations left without any form of protection, besides informal forms of safety nets.<sup>12</sup>

Thus, social protection policies that explicitly or implicitly aim to facilitate a transition from the informal to the formal economy, would need to consider the broader concept of informal work to include activities that are deemed relevant for policy. This would be consistent with the current discussions and proposed framework outlined in the Draft Resolution concerning statistics on the Informal Economy (ILO, 2021), which is expected to be presented for consideration and adoption by the 21st ICLS in 2023. Nevertheless, it is important to point out that the existing evidence base on the effects of social protection programmes on the informal economy, which is presented below in Section 5, relies on indicators that measure informal employment, thus yielding lower-bound estimates of the full impact of these policies on informal work.

## The informal economy in Asia and the Pacific

Currently, the literature on informality, including the much scater works on social protection and informality, rely on lower-level indicators that proxy informality. For example, a group of studies focus on the degree of compliance with taxes and regulations to measure the informal sector (Kanbur 2009; Kanbur and Keen 2015; Castel and To 2012). Other studies focus on firm size (Dabla-Norris, Gradstein, and Inchauste 2008a; Falco et al. 2011; Jäckle and Li 2006; Ulyssea 2018), the share of workers employed without formal contractual arrangements or not subject to social security benefits (Cai and Wu 2006; Williams and Lansky 2013; Galli and Kucera 2004; La Porta and Shleifer 2014) or simply look at the share of self-employment in total employment to measure informal employment (Bennett and Rablen 2015; Canelas 2019; Yamada 1996; Bargain and Kwenda 2011). While these proxy measures are useful for analytical purposes, they posit important challenges for international comparative analyses.

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6% of China's rural population. For more details on these programmes see UNU-WIDER (2020)'s Social Assistance Politics and Institutions (SAPI) database.

<sup>11</sup> While the definition of extreme disability varies from country to country, it usually covers impairments in seeing, hearing, mobility, communication, cognition, self-care and psychosocial dimensions. For a discussion, see DISTAT (2021).

<sup>12</sup> Informal safety nets are social structures and social networks that provide support to individuals, families and communities in times of hardship (Calder and Tanhchareun 2014).

In Asia and the Pacific region, data on informal employment (not informal work) is available for a large number of countries via Labour Force Surveys and Household Income and Expenditure Surveys that are collected on a regular basis. The latest aggregate figures compiled by ILOSTAT (2021) show that the informal economy, measured by the rate of informal employment, absorbs approximately 61 per cent of the labour force in the Asia-Pacific region. There is a significant heterogeneity in the scale and status of informal employment across the region, with countries such as Bangladesh, Cambodia, India, Indonesia, Lao People's Democratic Republic, Nepal and Pakistan having rates of informal employment exceeding 80 per cent while other countries such as Georgia, Marshall Islands, Turkey and Samoa having rates below 40 per cent. Such variation in the scale of informal employment goes down significantly when we focus on the self-employed, of whom 84 per cent work in the informal economy (see Table 2 below).

**Table 2. Informal employment rates in Asia and the Pacific by employment status (%)**

Country	Both sexes			Male			Female		
	Total	Employees	Self-employed	Total	Employees	Self-employed	Total	Employees	Self-employed
Armenia	44.9	19.5	85	50.5	22.5	81.7	37.7	16.5	90.2
Bangladesh	94.7	89.2	98.2	93.9	89.1	97.4	96.6	89.6	99.7
Cambodia	88.3	79.7	96.2	89	82.7	95.7	87.6	75.6	96.6
Fiji	43.6	20.3	84.5	44.7	21.3	84.4	41.5	18.3	84.9
Georgia	39.7	23.6	73.9	44.8	27.2	73.3	33.2	20	75.2
India	88.8	62.7	96.9	88.4	62.2	96.8	89.7	64.5	97.1
Indonesia	80.4	79.2	81.5	79.5	79.8	79.1	81.8	78	84.5
Kiribati	47.6	28.8	87.5	49.1	33.4	88.7	45.5	21.2	86.2
Kyrgyzstan	52.5	54.8	45.2	54.2	62.9	38.5	49.7	43.2	59.4
Lao People's DR	82.9	48.8	98.6	80.1	48.8	98.2	86	48.8	99
Maldives	44.3	31.6	81.6	43.1	33.6	70.4	46	28.5	92.8
Marshall Islands	22.6	10.2	88	20.5	10.2	85.2	27.2	10.3	91.7
Mongolia	41.4	15.2	80	46.4	19.5	81.2	35.8	11	78.4
Myanmar	79.9	87.5	75.7	75.1	91.6	66.2	86.4	82	88.9
Nepal	80.8	85.1	75.6	77.5	84.6	65.8	86.5	86.3	86.5
Pakistan	81.8	65.3	94.3	79.4	64.7	92.4	90.6	69	99.4
Samoa	37.3	13.1	77.9	42.4	16	79.7	27	8.3	72.8
Sri Lanka	68.1	50.7	91.9	71.3	57.8	89.9	61.7	36.7	96
Thailand	64.4	46	81	63.7	48.7	77.4	65.2	42.7	85.3
Timor-Leste	71.6	39.2	94.6	69.1	43	93.7	76.4	26.5	95.9
Turkey	31.4	14.9	69.7	28.2	14.4	60.7	38.6	16	88.8
Vanuatu	66.9	34.9	94.6	65.5	37.5	93.1	68.7	31.2	96.2
Viet Nam	67	45.9	90.1	70.5	55.6	88.7	63	33.1	91.5
<b>Asia and the Pacific</b>	<b>61.8</b>	<b>45.5</b>	<b>84.5</b>	<b>62.0</b>	<b>48.1</b>	<b>81.7</b>	<b>61.8</b>	<b>41.6</b>	<b>88.6</b>

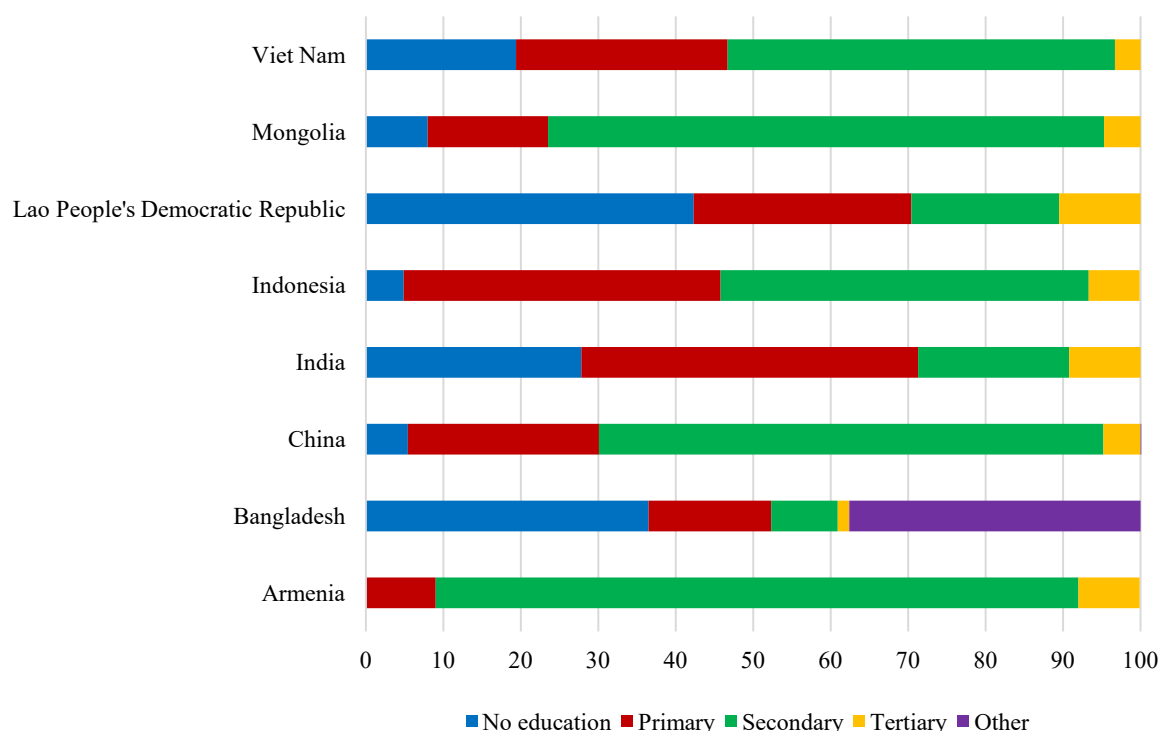
Source: Authors calculations based on ILOSTAT (2021)

Data also shows a significant variation in the composition of informal employment by levels of education across countries in Asia and the Pacific. In general, informal employment is concentrated among those with secondary, primary or no education, while a significantly lower share of those with tertiary education are employed in the informal economy, underscoring the correlates between informal employment and lower levels of formal education (Mehrotra 2020). For some countries such as Armenia, China and Mongolia, a transition to formal employment might be facilitated by adult upgrading education and active labour market policies (ALMP) that target the large share of workers with secondary education that are currently employed in the informal economy (see ). However, for other countries such as India and Laos People's Democratic Republic, with larger shares of informal workers with no education or only primary education, adult education or ALMP would probably be a limited



policy strategy, given the high levels of illiteracy and low levels of educational achievements among the working-age population in those countries.

**Figure 2. Informal employment by level of education in selected countries in Asia and the Pacific**



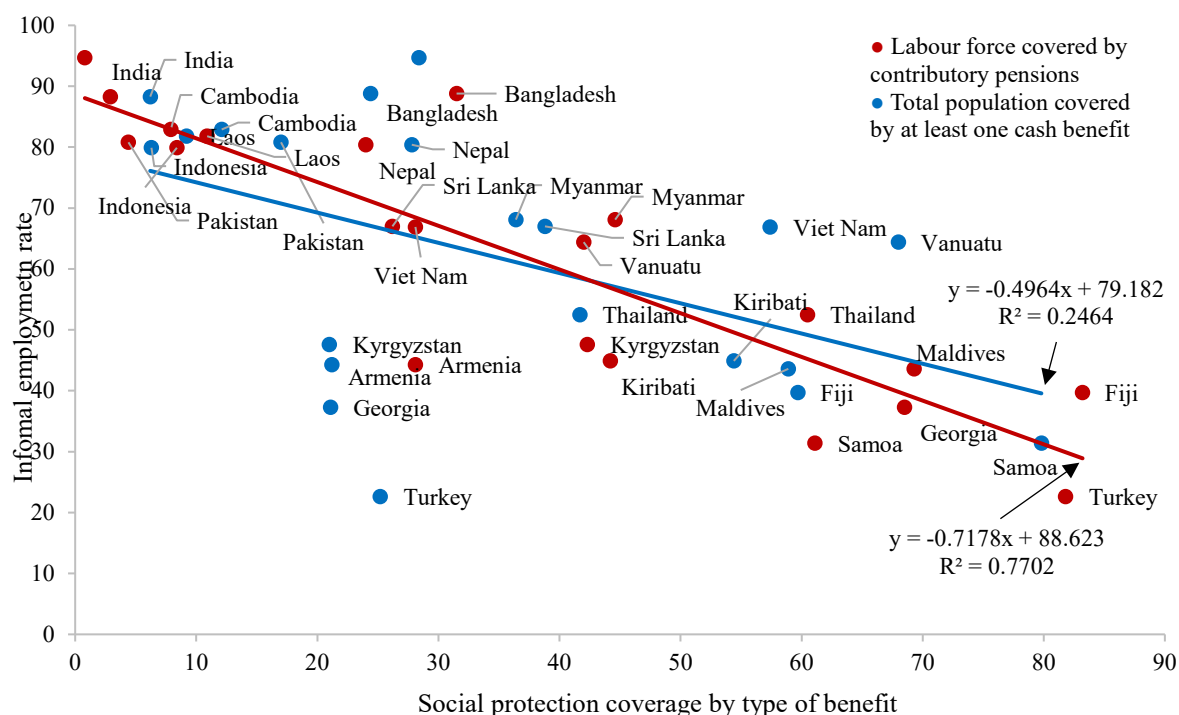
Source: OECD Key Indicators of Informality based on Individuals and their Households (KIIBIH) database. Note. Figures are based on the latest estimates: 2016 for Armenia, Mongolia and Viet Nam; 2015 for Bangladesh, 2014 for Indonesia, 2013 for China, and 2012 for India and Lao People's Democratic Republic.

While there is, as expected, a strong negative correlation between the scale of the informal economy and the share of the labour force that have access to contributory social insurance schemes in Asia and the Pacific, the presence of non-contributory schemes, which rely on criteria other than employment status, leads to a weaker negative association. This is shown by the regression lines in Figure 3, which indicate that while having access to social protection benefits, either contributory or not contributory, is negatively correlated with informal employment, just about 25 per cent of the variation in informal employment can be explained by the scale of social protection coverage.

A central question from this basic stylised fact is whether, and the extent to which contributory, and especially non-contributory social protection schemes, can influence the conditions and incentive mechanisms that underpin work choices in the informal economy. What does the evidence show in terms of the possible implications of extending non-contributory social protection coverage to informal workers and what would its contribution be on formalisation?

**Figure 3. Correlation between informal employment and social protection coverage by type of benefit**





Source: Authors calculations, based ILOSTAT (2021) and ILO (2021) World Social Protection Database

## Systematic review methodology

In order to answer these questions, we conduct a systematic review of the rigorous quantitative and qualitative literature that focuses on the intersection between contributory and non-contributory social protection schemes and the informal economy. Systematic reviews involve a clear, transparent, and reproducible method to first identify and then make synthesis of what works in development policy. In this review, we include both the white and grey literature, i.e., peer-reviewed and published articles, book chapters, and books, as well as working papers and unpublished manuscripts that adopt a rigorous methodology.

We follow the Cochrane Handbook for Systematic Reviews and Interventions (Higgins and Green, 2008) (Higgins and Green 2008) and PRISMA guidelines (Moher et al., 2009). The Cochrane methodology of systematic reviews is considered the gold standard for syntheses of evidence, and has been adopted, for instance, by the Campbell Collaboration and the International Initiative for Impact Evaluation (3ie), which focus on generating evidence of development interventions. Adherence to a systematic review methodology yields a review of the literature that is not only reproducible but also less prone to selection and publication biases than other types of literature reviews such as critical reviews and scoping studies (Cooper, 1988; Grant and Booth, 2009; Pare et al., 2015). This methodological approach also facilitates a more precise cross-study comparative analysis, which strengthens the findings from the review. Appendix I provides a detailed account of the systematic review methodology, including the search protocol and the inclusion criteria adopted in the review.

## Social protection and the informal economy. A synthesis of evidence

This section presents a synthesis of evidence from the systematic review. We separate the literature by the world regions that concentrate the largest number of low- and middle-income countries, i.e., Asia and the Pacific, Latin America and Africa.

### 5.1. Evidence from Asia and the Pacific

In Asia and the Pacific, coverage of contributory social insurance benefits remains highly heterogeneous across the region (see Table 1) and limited to workers that are employed in the formal economy. However, over the past two decades, non-contributory schemes have expanded significantly to provide protection to populations in poverty or in situations of vulnerability, many of whom are employed in the informal economy.

Despite a growing literature that focuses on the impacts of non-contributory schemes on several dimensions of wellbeing (see e.g. Baird et al. 2013; Barrientos and Niño-Zarazúa 2010; Bastagli et al. 2019; Hillier-Brown et al. 2019; Kabeer and Waddington 2015; Lagarde, Haines, and Palmer 2007; Owusu-Addo and Cross 2014 for reviews), there is a very small number of studies that examine the effects of these policies on informality. An equally small literature employs qualitative methods to examine the challenges that informal workers face in accessing contributory and non-contributory programmes, which can be informative to expanding coverage of social protection policies (see e.g., ADB 2013 and Handayani 2016), rather than assessing the effects of such interventions on the labour market.

In the edited book by Handayani (2016), the authors estimate social protection expenditure in the informal sector in 20 Asian countries and identify financing options for closing coverage gaps. The authors find that major gaps in coverage of informal workers could be closed with public spending of about 2 to 3 per cent of the Gross Domestic Product in these countries. Case studies on Bangladesh, China, Indonesia, Pakistan, and the Philippines underscore the challenges faced by informal workers to enter the formal economy and suggest interventions to inform the design of public policies aimed to expand social protection coverage. In Pakistan, for instance, the authors argue for the implementation of training schemes, that together with social protection programmes, could inform informal workers about formal sector job opportunities, and also strengthen their collective bargaining process, under the implicit assumption that barriers prevent workers from entering the formal labour market.

Countries such as Indonesia, Viet Nam, and the Philippines have introduced policy reforms with the aim of achieving universal health coverage via the combination of a contributory component in which individuals are required to pay an insurance premium to reduce the financial burden on the government, with a fully subsidised scheme for the poor and vulnerable, which is financed through tax revenues. While there is not quantitative evidence of the full impact of these schemes on labour markets and informal employment, some Randomized Control Trials (RCTs) have been carried out to test the effect on coverage of different design features and policy instruments.<sup>13</sup>

In Indonesia, the government launched in 2014 a mandatory universal health insurance scheme, the Jaminan Kesehatan Nasional (JKN), which consists of three different components: i) a programme for poor and 'near-poor' households financed entirely out of general government revenues: ii) a programme for formal workers, including government employees, funded by employee and employer contributions, and iii) a programme for non-poor informal workers and their households funded by premium contributions (Banerjee et al., 2021; Pratiwi et al., 2021).

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<sup>13</sup> For a comprehensive discussion on the challenges to implement universal health coverage in the context of Asia-Pacific, see Bredenkamp et al. (2015) and Lagomarsino et al. (2012).

One year after its introduction, the contributory component of the programme targeting non-poor informal workers, known as JKN Mandiri, had just enrolled 20 per cent of the targeted population. In 2015, Banerjee et al. (2021) in cooperation with the Indonesian government, designed a large-scale RCT involving almost 6,000 households, to assess three interventions with the objective of increasing enrolment: i) temporary price subsidies, ii) home assistance with an online registration system to reduce travelling costs, and iii) providing households with basic insurance information such as the financial costs of health shocks and how they relate to insurance prices, and the fact that insurance coverage is legally mandatory. The authors find that both temporary subsidies and assisted registration increased initial enrolment. Temporary subsidies increased coverage more than eight-fold, and once the subsidies ended coverage remained twice as high, indicating that households that received subsidies were more likely to stay enrolled even after the subsidies expired. This seems to indicate that temporary subsidies and assisted registration reduced the initial fixed costs and informational asymmetries of enrolment, with lasting effects. In terms of the financial implication of the subsidies to the Government's budget, the authors find that once the subsidy ended, net revenues to the government i.e., premiums paid by enrollees total value of claims were almost identical between the fully- and no-subsidized groups. It is worth noting that the gains in enrolment were hampered by weak administrative state capacity and problems with the online enrolment system that generated inaccurate information on civil registries.

In Viet Nam, the Government requires formal-sector workers to enrol in the Social Health Insurance (SHI) scheme based on mandatory contributions by employers and employees. The SHI also provides a fully-subsidised component to cover the elderly, dependants of military officers, and the poor, and also provides a subsidised premium to the near-poor and students (Tangcharoensathien et al. 2011). The self-employed and waged workers without a contract (or with short term contracts) and which fluctuate around the informal economy, have the option to voluntary enrolment in the SHI, and this group was the subject of analysis in the experimental study by Wagstaff et al. (2016). The authors test how voluntary enrolment responds to information and premium subsidies. The experiment consisted of i) providing households with basic information about the benefits of the health insurance, ii) providing households with a voucher entitling eligible household members to a 25 discount of their annual premiums, iii) a combination of both information and the subsidy. The study finds small and insignificant effects for all three interventions suggesting that information campaigns and subsidies have limited effects on voluntary health insurance enrolment.

Similar results are reported by Capuno et al. (2014) from the Philippines where an RCT was implemented to test whether a premium subsidy combined with programme information could increase enrolment in the Individual Payer Program. The experiment consisted of providing eligible households with an information kit and a 50 per cent premium subsidy. The authors find small and insignificant effects of the intervention, suggesting that premium subsidies combined with information are ineffective at increasing health insurance coverage among informal workers.

In Thailand, two quasi-universal non-contributory programmes were introduced in the 2000s: The Non-contributory Allowance for Older People and the Universal Coverage Scheme (UCS). The UCS provides universal access to healthcare to all individuals not covered by the Social Security (SS) and the Civil Servants Medical Benefits (CSMBS) schemes.<sup>14</sup> The study by Wagstaff and Manachotphon (2012) examines the effects of the UCS scheme on labour market outcomes. The authors find that the programme increased informal employment among married women by approximately 2 percentage points, which initially raised to nearly 10 percentage points after three years of programme implementation. The largest effects on informal employment were observed in the agricultural sector. It seems that with medical expenses covered by the UCS, married couples have incentives to leaving the city, where mainly men had job opportunities, and also because of the limited childcare facilities.

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<sup>14</sup> In terms of benefits such as medical coverage, maternity benefits, etc. the UC and SS are very similar, except for certain cash benefits payable in the event of sickness, disability and death that are only provided to SS beneficiaries. In addition, the SS scheme provides health coverage only to the registered worker and not to household members.

The study also finds a reduction in formal employment among men, both married and single, although the negative effects on formal employment were small, about three percentage points after three years. One of the mechanisms explaining the reduction in formal employment comes from the fact that the SS scheme provides health coverage only to the worker but not his or her dependents. Thus, workers have strong incentives to join the UCS to extend health protection to all household members.

## 5.2. Evidence from Latin America

In Latin America, approximately 140 million people work in the informal economy, which account for about half of total employment in the region (ILO 2020), and as a result, half of the population have no access to social security benefits. Since early 2000s, an increasing percentage of the Latin American population has received benefits from non-contributory social protection schemes, which are largely financed by government tax revenues (Niño-Zarazúa 2020). This has attracted increasing attention in the literature, which is also reflected in the larger number of studies identified through the systematic review.

Overall, the systematic review identified 14 relevant studies conducted in the Latin American region. Among this literature, four studies focus on institutional reforms that expanded, healthcare coverage to unprotected informal workers through both contributory and non-contributory health insurance schemes; eight studies focus on how conditional cash transfers have *indirectly* impacted work choices and informal employment, while a very small number of studies examine the causal relationship between non-contributory old age pensions and informal employment.

The first set of studies looks at the expansion of health insurance schemes in several countries, including Mexico, Uruguay, Colombia, and Nicaragua. The evidence is mixed in terms of labour market outcomes in the informal economy. In Uruguay, the evidence shows an increase in formal employment from the extension of a contributory social insurance scheme, while in Colombia and Mexico, non-contributory social health insurance programmes seem to have led to increases in informal employment at the ‘margin’.

One of the most studied non-contributory social health insurance programmes is Mexico’s Seguro Popular (SP), which was implemented in 2004 by the central government to provide healthcare to the uncovered population. Prior to the introduction of SP, only half of the Mexican population benefitted from health insurance through a contributory scheme that provides retirement pensions, healthcare services, and other benefits to formal workers (Levy and Schady 2013a). Informal workers financed their healthcare expenditures out-of-pocket via public providers with a co-pay, or through the private sector. SP was introduced with the objective of providing universal health coverage in a two-tier system. By 2014, about 55 million Mexicans, that is, nearly half of the country’s population, had received health coverage via SP (Frenk et al. 2006).

The program was rolled out gradually over a period that lasted more than a decade. During the first five years of the program, the emphasis was on covering the lowest income quintile of the population. Further, priority was given to families in high deprivation areas, in rural areas, and to indigenous people (Gakidou et al., 2006). Knaul et al. (2006) point out several positive results of the SP, including better health outcomes of the targeted population, improved health equity, and health protection. Similarly, Gakidou et al. (2006) found that Seguro Popular affiliates utilised more health services than the uninsured, in particular, individuals with acute medical conditions.

While SP seemed to have increased access to healthcare, a group of studies also report positive effects of the programme on informal employment. For instance, Azuara and Marinescu (2013) find that while the programme had no effect on informal employment at aggregate level, when looking at population subgroups the scheme led to a small increase of 1.7 per cent in informal employment among the less educated workers. This seems to be the result of a substitution effect between formal and informal employment arising from the existence of more job opportunities in the informal economy. Importantly,

the wage gains for workers who switched from formal to informal employment were not significantly affected, indicating that marginal workers, i.e., those around the threshold that separate informal employment from the formal economy, did not choose between formal and informal jobs on the basis of health insurance coverage.

In a similarly study, Aterido et al. (2011) look at unintended effects of SP on the labour market. Overall, the authors find that the programme had a small decreasing effect on formal employment by approximately 0.4-0.7 percentage points. Importantly, the study finds that rather than encouraging a transition from formal to informal employment, the social health insurance was associated with a 3.1 percentage points reduction in the flow of workers to the formal economy. Thus, the results indicate that while SP induced a decline in the incentives for certain type of workers to search for formal jobs, it did not provide strong incentives for workers already in the formal sector to leave for informal employment. This is in part because while SP provides healthcare services free of charge, the contributory health system offers a better healthcare package. These benefits along with higher average salaries in the formal sector means that the contributory health system continues to be the preferred choice for skilled and better remunerated workers.

Uruguay offers an interesting case. The contributory social security system in Uruguay, provides retirement pensions, healthcare services,<sup>15</sup> and other benefits to workers employed in the formal economy.<sup>16</sup> While workers employed in the informal economy have access to welfare benefits via non-contributory schemes, these programmes have strict eligibility rules, such as being below a given income threshold; therefore, not all informal workers have access to these benefits. In 2008, the government introduced a legal reform to the health insurance with the aim of extending coverage to dependents of registered workers.<sup>17</sup>

While the primary objective of the reform was to extend healthcare coverage, Cruces and Bergolo (2013) find that the first stage of the reform also generated positive externalities in the labour market. By extending coverage to workers' children, the Uruguayan healthcare reform induced private-sector salaried workers with at least one child to switch from informal to formal employment, with a statistically significant decline in the informality rate by approximately 1.3 percentage points on average, relative to those without children. This represents a 5 per cent decrease in the probability to work informally. Interestingly, the authors find that the effect was largely driven by female salaried workers – with an effect of around 2.6 percentage points, which roughly represents a decrease of 7 per cent from the pre-policy average labour informality for women. The underlying mechanism underpinning the results, as discussed by Cruces and Bergolo (2013) was that “for a worker with an average salary, the direct cost of paying out-of-pocket for private health care coverage for their children was comparable to the total payroll tax of a registered worker, which also gives the worker access to a whole bundle of social security benefits including retirement savings and unemployment insurance.

During the early 1990s, Colombia went through a set of social reforms, including the introduction of Law 100 in 1993 that reformed the social security system, and created the contributory regime (CR) and the subsidized (non-contributory) Regime (SR) with the aim of achieving a universal coverage of health insurance. While the CR made health insurance mandatory through employment, regardless of occupation, the SR was designed to provide healthcare access to the poor either unemployed or employed in the informal economy. Eligibility to the SR is means-tested and is determined using a poverty index score at the household level. Eligible households are then given access to healthcare via the Plan Obligatorio de Salud Subsidiado (POS-S). Similar to the Mexican experience, the Colombian

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<sup>15</sup> Contributing workers can select as their healthcare services provider an institution from the public system or from a network of private health providers (Instituciones de Asistencia Médica Colectiva, IAMC).

<sup>16</sup> Uruguay has one of the oldest contributory social security systems in Latin America, with a high degree of coverage and low levels of informality (roughly 23% between 2001-2009) in the labour market.

<sup>17</sup> Before the reform, health insurance was individual and did not cover workers' family members. However, due to fiscal constraints, the reform was implemented gradually by first extending healthcare coverage to the workers' children under the age of 18.



health reform was successful in expanding health insurance coverage in the population. Indeed, healthcare coverage increased from levels below 30 per cent prior to the reform to more than 90 per cent by 2013. Since dual enrolment is not permitted, and participation in the CR disqualifies a worker from the SR, poor formal workers could opt out of the CR and become informal, or not join the CR in the first place in order to avoid paying contributions. Indeed, Camacho et al. (2014) find that informal employment was approximately 4 percentage points higher than it would have been in the absence of the health reform.

In Nicaragua, contributory social security benefits are distributed via the Instituto Nicaragüense de Seguridad Social (INSS) to approximately 18.5 per cent of the economically active population employed in the formal sector. Social security benefits include old age pensions, health insurance and also cover workers' dependent children up to the age of 12, as well as their partners during pregnancy and the postpartum period. Given that approximately 75 per cent workers are employed in the informal economy (World Bank 2021), the government of Nicaragua initiated a project in 2007 that extended the INSS health insurance package to informal sector workers through local microfinance institutions (MFIs).

The programme 'Seguro Facultativo de Salud' (SFS) provides uninsured workers and their dependents with access to health care by paying a flat monthly premium of approximately US\$15 per month. At the time of the programme, it was estimated that approximately one-third of microentrepreneurs had a loan with an MFI (Thornton and Islam 2008). In the initial phase of the programme, insurance subsidies were randomly allocated to market vendors in several large open-air markets in the capital. However, once the subsidies expired, less than 10 per cent of beneficiaries remained enrolled in the insurance scheme (Hatt et al. 2019). This indicates that among low-income workers largely employed in the informal sector, there is a large price elasticity of demand for health insurance, in part due to significant household budget constraints, which limits the effective coverage of *voluntary* health insurance.

Focus group discussions also confirmed budget constraints of informal workers. Common reasons for not participating in the scheme included what was perceived as a high-premium relative to the income level of the participants, as well as the perception that the insurance was not worth paying since it did not cover children over the age of 12.

The systematic review also identified a second strand of the literature that focuses on the effect of Conditional Cash Transfers (CCTs) on informal employment. The evidence from this literature is mixed. Two studies find CCTs to lead to increases in informal employment in Colombia and Uruguay, while mixed evidence is reported from Brazil.

The study by Garganta and Gasparini (2015) examines the labour market effects of Argentina's Universal Child Allowance (UCA) program. The program was introduced in 2009 to provide monthly cash transfers to unregistered workers with children. The authors find that UCA generated disincentives to enter the formal economy, although it did not lead to formal workers becoming informal. In particular, the results suggest that the probability of formalization of programme beneficiaries was reduced by between 28 and 43 per cent. The authors argue that the results were driven by an income effect, since the size of the cash transfer for a typical poor informal worker with three children was about 25 per cent of his/her expected wage in the formal sector. So, after accounting for the cost of social security contributions and income taxes, poor workers chose to remain informal to avoid these costs.

In Colombia, Saavedra-Caballero (2018) and Barrientos and Villa (2015) examine the labour market effects of 'Familias en Acción', a CCT implemented in 2001 by the Colombian government to mitigate the effects of the economic crisis of the late 1990s. The authors find that the programme reduced workers' probability of being employed in the formal sector and thus receiving social security by 3.73 percentage points, from an average rate of formal employment of 37 per cent. Since Familias en Acción targets the poor, the authors argue that the CCT may induce workers to not register their income for fears of losing their benefits, which in turn leads to informality.

In contrast, Barrientos and Villa (2015), find a positive impact of Familias en Acción' on formal employment among women beneficiaries relative to non-eligible women at the margin of eligibility, with effects in the order of 3.2 percentage points. However, they also find a negative effect for women with young children, indicating a heterogenous effect of the programme depending on household composition and gender.

In Brazil, three studies examine the impact of Bolsa Familia, the flagship means-tested CCT that targets low-income households. Barbosa and Corseuil (2014) find that the programme had no effects on occupational choices among adult workers employed either in the formal or informal sector. A subsequent analysis by de Brauw et al (2015) finds a significant labour reallocation between the formal and informal sector and across household members. In particular, the authors find a shift of working hours from formal to informal employment driven by urban households. The authors argue that since programme eligibility is based on self-reported income provided at the time of application, which is cross-checked by the Government using a database of formal-sector earnings, households near the eligibility income threshold may choose to work informally, at least partially, in order to receive benefits from the programme.

A more recent study by Fruttero et al (2020) finds that beneficiaries of Bolsa Familia were between 3 and 5 percentage points more likely to be find a formal job than the control group. The effect was strongest for the 25-35 age cohort. Two possible mechanisms underpinning these findings are i) an income effect that help programme beneficiaries meet the search costs of formal jobs, and ii) psychological benefits of CCTs via mitigation of household budget constraints, which can *indirectly* lead to better work choices.

In Ecuador, the study by Bosch and Schady (2019) examines the effects of the *Bono de Desarrollo Humano* (BDH). Similar to other CCTs in LAC, payments are made to women. At the time of the analysis, the transfer roughly represented 20 per cent of household income. The authors find that while the programme did not reduce labour supply among adult members of eligible households, it led to a small decline in formal employment by approximately 1.2 percentage points from a counterfactual level of 16.3 per cent. The authors argue that while the rules of the programme established that individuals holding a formal job were not eligible to receive BDH, in practice payments were never discontinued, thus mitigating the potential incentives for workers at the margin to become informal. This is an important finding, as social protection programmes that 'do not condition eligibility on (the absence of) formal income may lead to only small distortions on the labour market at the margin.

In Uruguay, Bergolo and Cruces (2021), examine Asignaciones Familiares-Plan de Equidad (AFAM-PE) a means-tested family allowance programme. The authors find that the programme reduced formal labour force participation by about 6 percentage points among beneficiaries over the period 2008-2010 and that the effect went up to 8.7 percentage points for the case single mothers. The results seem to be consistent with the literature on welfare programmes that documents stronger behavioural responses for single mothers compared to average beneficiaries. The results also suggest that the reduction in formal employment increased inactivity and informality proportionally. According to the authors, the programme's eligibility rules, which are based on verification of reported earnings, create a strong disincentive for registered formal employment.

Finally, a small strand of the literature examines the extent to which non-contributory old age pensions have influenced informal employment. Most Latin American countries, with the exception of Honduras and Nicaragua, have introduced non-contributory old age pensions; however, only Bolivia and Mexico offer universal pensions on the basis of citizenship. In Bolivia, since 2007 all citizens aged 60 and older, irrespective of their income or whether they received a contributory pension, are eligible to receive 'Rental Universal de Vejez—Renta Dignidad', a universal non-contributory pension.

A recent study by Canelas and Niño-Zarazúa (2022) looks at the effects of Renta Dignidad on labour force participation and work choices in the formal or informal sectors. While the authors find that Renta

Dignidad has no detrimental effects on labour force participation, and on the intensity of labour supply at the aggregate level, they find that the pension reduced the probability of having a formal salaried job for adults living with pensioners in rural areas, by about 8 percentage points. The authors argue that the high poverty rates together with the exploitative and precarious conditions often found in salaried jobs in rural areas (mostly agricultural and mining industries) may have contributed to the small shift from salaried work to self-employment once households' budget constraints were relaxed due to the presence of the pension.

In Mexico, the study by Galiani et al., (2016) examine the short-term effects of *Adultos Mayores*, a non-contributory pension scheme for seniors aged 70 years and older. They find that while labour force participation and hours worked were not affected by the pension, pensioners reduced their participation in formal paid work by about 5 percentage points (about 18 per cent in relation to the baseline level) in exchange for a proportional increase (about 6 percentage points- or a 48 per cent increase from baseline levels) in unpaid work on a family farm or in a family business, which indicates a substitution effect between formal and informal employment. The effect is similar when looking at the intensive margin, where beneficiaries engaged in 2.6 fewer hours of paid work and 2.2 more hours of unpaid work. The study also reports positive effects on the wellbeing of beneficiaries as the result of the switch from formal to informal employment, reflected in a significant improvement in mental health among pensioners, which is measured by a reduction in the Geriatric Depression Scale.

### 5.3.Evidence from Africa

In the context of Africa, informal employment accounts for 86 per cent of total employment. Within the African subregions, Northern Africa has the lowest share of informal employment with 67.3 per cent, while sub-Saharan Africa shows the highest share with approximately 90 per cent of workers employed in the informal economy (ILO 2018).

Through the systematic review, we identified one quantitative study focusing on South Africa' Old Age Pension, a non-contributory means-tested pension that provides a monthly income for seniors 60 years or older with no other means of financial income.<sup>18</sup> To qualify for the pension, individuals should not be direct beneficiaries of any other grant (Morné, 2021). The study by Dutronc-Postel and Tondini (forthcoming) takes advantage of a change in the age eligibility criteria for men to analyse the labor markets effects of the reform. Consistent with theoretical expectations, the authors find that the reform triggered a large drop in elderly male employment, although this drop was driven by informal workers (between 30 to 40 per cent of informal workers in retirement age dropped out of the labor force) regardless of their level of hourly earnings. Importantly, formal employment was mostly unaffected. Furthermore, the authors find no significant reallocation of work from formal to informal employment suggesting that the change in incentives is not large enough to induce a switch from formal to informal employment. This is in part explained by the fact that the non-contributory pension is roughly equal to the median wage in the informal sector, which is well below the median wage in the formal sector.

## Discussion

In the last two decades, there has been a considerable expansion of social protection systems across low- and middle-income countries, signalling a major policy shift towards extending protection to populations that due to their work status, have been traditionally excluded from contributory social insurance schemes. A key concern related to the functioning of labour markets is how these policies can impact the conditions and incentive mechanisms that underpin the informal economy. Yet, the literature that explicitly focuses on this critical concern remains very limited and restricted to a small number of countries. Thus, any conclusion arising from the systematic review should be interpreted with caution

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<sup>18</sup> For qualitative studies see Osiki (2020), Alfors (2016), and Riisgaard et al. (2021).



and in light of specific design features of policies and contextual considerations that intersect with the structure and functioning of fiscal policies, state capacity and good governance considerations.

Nevertheless, drawing from the synthesis of evidence presented in the previous section, what can we infer about the effects of social protection programmes on informal employment? What are the likely mechanisms influencing this relationship? How reliable is the evidence coming from the literature? What are the policy implications of the evidence base? Table A1 in the Appendix provides a summarize the main findings from the literature.

In order to discuss the implications of the existing evidence for policy, it is helpful to discuss in Figure 4, a theory of change that depicts the intersections between different types of contributory and non-contributory social protection policies and informal employment. A theory of change captures how an intervention is expected to have an intended impact (White 2009: 274). It involves identifying key inputs and activities from social protection policies, both contributory (depicted in blue colour in Figure 4) and non-contributory (in red), which through specific transmission mechanisms affect labour market outputs and outcomes (including informal employment), and ultimately impact total factor productivity, income and consumption smoothing, economic growth and protection against life course contingencies and shocks.

The literature highlights key policy activities that have been introduced by contributory social insurance schemes and non-contributory social assistance programmes, with the aim of expanding coverage and protection to workers employed in either the formal or informal economy, respectively. As outlined in Section 6, among the activities introduced by contributory social insurance schemes include premium subsidies for informal workers and vulnerable groups (Bredenkamp et al. 2015; Tangcharoensathien et al. 2011), extension of welfare benefits to dependents of workers (Cruces and Bergolo 2013), information campaigns and direct assistance with enrolment to social insurance (Wagstaff et al., 2014; Capuno et al., 2014; (Liang and Langenbrunner, 2013), and expansion (and improvement) of bundled services (Aterido et al. 2011).

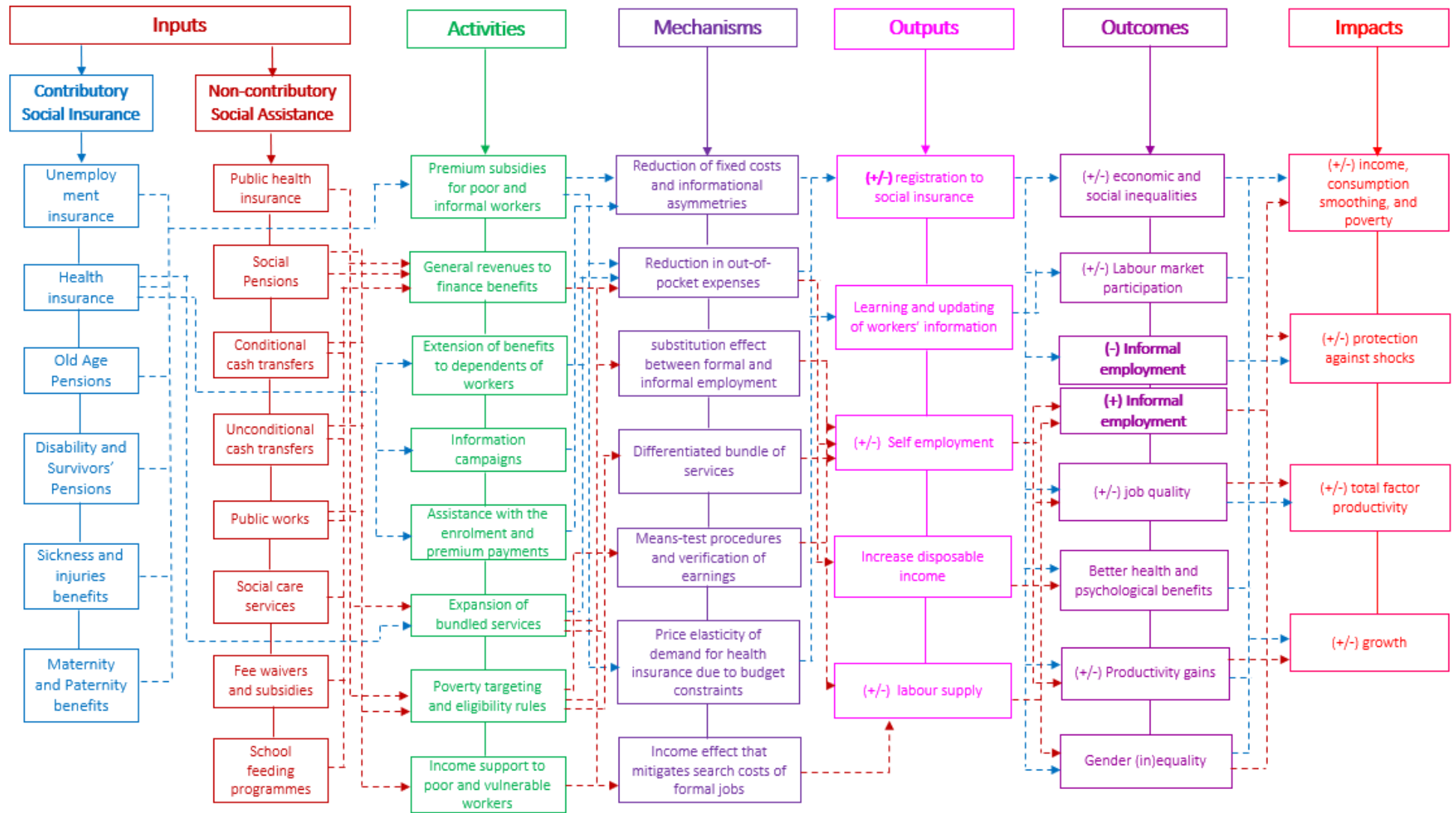
These activities can lead to specific outputs and outcomes, in particular to changes in informal employment via several mechanisms, including a reduction of fixed costs and informational asymmetries associated with social insurance registration (Banerjee et al. 2021), and a reduction in out-of-pocket health expenses (Cruces and Bergolo 2013). The effectiveness of these activities in encouraging formalisation may nonetheless depend on the price elasticity of demand for social insurance, in particular among poorer workers operating in the informal economy (Hatt et al. 2019).

In the case of non-contributory social protection schemes, the scant literature highlights a number of activities introduced by different types of programmes, in particular public health insurance schemes, social pensions, and conditional and unconditional cash transfers that seem to influence labour market outputs and outcomes, including work choices in the informal economy. Relevant activities include the expansion of health services to uncovered workers operating in the informal economy (Levy and Schady 2013; Azuara and Marinescu 2013); income support to vulnerable populations, including informal workers and pensioners (Garganta and Gasparini 2015; Galiani et al., 2016) and poverty targeting and specific eligibility rules that aimed to restrict benefits to those who are poor and/or uncovered by contributory social insurance schemes (Barbosa and Corseuil 2014; Brauw et al 2015).

While these activities are designed to expand coverage of social protection, a growing, yet small, number of studies underscore the potential undesirable effects of these activities on informal employment, which seem to materialise through key mechanisms, namely: a substitution effect between formal and informal employment that arises from the presence of parallel systems of social protection with differentiated bundle of services (Galiani et al., (2016) and divergent job opportunities in the informal and formal economies (Azuara and Marinescu 2013), and means-tests and earning verification systems that discourage beneficiaries of these programmes from entering the formal economy in order to avoid losing their benefits (Camacho et al. 2014). As seen in the last two columns of Figure 6, these incentive mechanisms can have important implications for job quality, productivity gains, gender

equality and ultimately total factor productivity, growth, poverty reduction and aggregate protection against life course contingencies and shocks (Levy and Cruces 2021).

**Figure 4. Social Protection and Informal Employment: A Theory of Change**



Source: Authors

## Conclusion

While these studies draw attention to the need to further investigate the potential unintended consequences of non-contributory social protection programmes on informal employment, in some cases, studies also indicate that CCTs can generate an income effect that helps mitigate the search costs of formal employment, leading to more positive labour market outcomes (Fruttero et al., 2020). Thus, based on the theory of change, and the synthesis of evidence-base presented in Section 6, we infer the following:

First, the prime purpose of social protection systems is not to formalize employment and therefore they alone are insufficient policy tools to promote the transition from the informal to the formal economy. In order to achieve that goal, wider policy reforms would be needed to address, among other things, the presence of fragmented and parallel systems of social protection that generate an unequal bundle of services that are provided to citizens (Levy and Cruces 2021), and existing deficiencies in quality and inequities in the provision of services that discourage registration to the formal economy (Lagomarsino et al. 2012; Maloney 2004; Sylvia et al. 2015). If social protection benefits are insufficient or of poor quality, and contribution quotas are high, relative market income, informality will remain high. Other factors can also affect work choices, including the quality of employment and wages in formal employment (Canelas and Niño-Zarazúa 2022); red tape and corrupted practices by State institutions and agents (Gajigo and Hallward-Driemeier 2012), and inefficiencies in tax collection systems (Boly 2018; McKenzie and Sakho 2010; Rand and Torm 2012).

Second, the design of social protection programmes needs to consider the potential incentives that they generate in the formal and informal economies. Indeed, while social protection programmes have not been introduced or extended with the primary objective of formalising workers, certain policy reforms seem to have generated incentives for workers to formalise. A relevant case is Uruguay's Social Security System, which extended healthcare coverage to dependants of beneficiary workers. The reform was financed by an increase in payroll tax contributions of workers and had a positive effect on formalization among salaried workers with children and also among those married to workers in the informal economy because prior to the reform, they had to pay out of pocket for their children's healthcare. This is, of course, a matter of cost-benefit analysis at the household level. While the cost of private health care coverage was similar to the total payroll tax of a registered worker, the complete package of social-security benefits included, in addition to health coverage, unemployment insurance and retirement benefits. Uruguay's experience indicates that reforms that extend the bundle of services to dependents can produce positive incentives for workers to formalise, even if this implies paying higher contributions, which nonetheless compensate for the direct costs of health care. It should be noted, however, that workers' valuation of social security benefits depends on their ability to pay for social security contribution. Poor informal workers who could not afford private healthcare in the first place, were excluded from the reform.

Third, particular focus should be given to the incentive mechanisms that non-contributory social protection programmes generate among populations hovering around the formal and informal economies. Indeed, a scant literature indicates that there are reasons to suspect that under certain conditions, the extension of non-contributory social protection schemes—in particular social pensions and social health insurance schemes—in parallel to contributory social insurance policies, can lead to a substitution effect and positive changes in the share of informal employment. These effects seem to be overall small and *at the margin*, and among specific populations that are close to the cut-off point that separate the formal from the informal economy. Increases in informal employment seem to be associated with programmes that provide relatively generous benefits, or that adopt targeting mechanisms via means-tests or proxy-means tests. Workers that are presented with the possibility of accessing a comprehensive bundle of health services or an old age pension without mandatory contributions may choose to remain informal to avoid the costs of formalization. It should be noted that the costs of formalization are not exclusively associated with taxes and social security contributions. There is evidence indicating that onerous business environments (Chen 2005), dysfunctional regulatory

systems (Dabla-Norris, Gradstein, and Inchauste 2008), and poor government services (Loayza and Rigolini 2006) can be costly to businesses and discourage formalization, and these contextual factors can exacerbate the potential effects of non-contributory schemes on informality.

Fourth, while the scant literature shows that in some contexts non-contributory schemes tend to discourage workers from entering the formal economy, there is no evidence suggesting that social protection programmes are producing incentives for average formal workers to become informal. In specific contexts, however, marginal formal workers may choose to self-employ in the informal economy in order to exit hazardous or exploitative labour market conditions in the formal economy (Canelas and Niño-Zarazúa 2022). Thus, effective labour market regulations can play a critical role in mitigating the risk of workers moving from formal to informal employment as a result of non-contributory schemes.

Fifth, the small effects of non-contributory schemes on informality should be weighed against the welfare gains and protection that these programmes provide to workers, their families and vulnerable populations. The question of ‘how’ to extend social protection coverage to informal workers and vulnerable populations without generating two-tier systems of social protection (and citizenship) remains open and at the frontier of future research. Indeed, a strand of the literature reflects a growing concern that the current social protection architecture in many low- and middle-income countries is causing distortions in the labour markets and penalizing the formal economy (Levy and Cruces 2021; Wagstaff and Manachotphong 2012; Levy and Schady 2013; Bobba et al. 2020). Questions about universality vs. targeted schemes, sources of financing, and political economy considerations are also important when (re)designing social protection programmes and systems in low- and middle-income countries in Asia and the Pacific.

To conclude, it can be asserted that while policy strategies can vary from context to context, there are significant knowledge gaps and clearly a need for further research on the relationship between different types of social protection policies and informality, and which recognises that the informal economy covers a wide variety of work arrangements with specific characteristics and circumstances that require a more tailored examination to identify the impact and incentives of social protection schemes. Specifically, there is a need to better understand why certain policies seem to be detrimental for formalization and the mechanisms that underpin these effects; whether these policies could generate responses from some groups or in some locations and not in others; and how policy reforms could mitigate these unintended outcomes while procuring social justice and equity.

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# Appendices

## Appendix I. Systematic Review Methodology

We follow the Cochrane Handbook for Systematic Reviews and Interventions (Higgins and Green, 2008) (Higgins and Green 2008) and PRISMA guidelines (Moher et al., 2009). The Cochrane methodology of systematic reviews is considered the gold standard for syntheses of evidence, and has been adopted, for instance, by the Campbell Collaboration and the International Initiative for Impact Evaluation (3ie), which focus on generating evidence of development interventions.

Adherence to a systematic review methodology yields a review of the literature that is not only reproducible but also less prone to selection and publication biases than other types of literature reviews such as critical reviews and scoping studies (Cooper, 1988; Grant and Booth, 2009; Pare et al., 2015). This methodological approach also facilitates a more precise cross-study comparative analysis, which strengthens the findings from the review.

### Search protocol

The search for relevant studies was formally conducted in August 2021. Permutations of search terms were used to capture all available publications regarding the intersection between social protection systems and informality. These terms included, *inter alia*, the following Boolean combinations: “social protection”, “social assistance”, “social insurance”, “social security” “safety nets”, “cash transfers”, “pensions”, “health insurance”, “public works”, “workfare”, “informality”, “informal employment”, “informal workers”, “informal economy”, “informal labour markets”, “developing countries”, low-income and middle-income countries” “global south”, “Asia and the Pacific”. The search was conducted via the following repositories: Microsoft Academic, Google Scholar, Project Muse, Econ Papers, Econ Lit, and Web of Science. Furthermore, the bibliographies of published reviews in the context of informality and social protection interventions were cross-referenced to ensure the review did not omit any critical publications.

Furthermore, we examined relevant policy reports from international organisations such as the ILO, UNESCAP and the World Bank that were based on background studies in the area of informality and social protection. We restricted the search parameters to the time frame 1990-August 2021.<sup>19</sup> We also specified that search terms did not just assess titles, but the entire text of the publication, in order to capture papers of substantive interest. Results were refined to exclude patents and citations. The search was conducted for English-language sources.

The search protocol included both the white and grey literature. Unpublished work was included in order to mitigate the potential ‘file drawer problem’, i.e., the bias that can be introduced into evidence review when only published studies are considered due to the tendency of published work to reflect statistically significant results (either positive or negative), while excluding statistically insignificant findings. The search protocol in English language yielded the following results:

social protection AND informality= 18 100 publications  
social protection AND informal employment= 162 000 publications  
social protection AND informal workers= 977 000 publications  
social protection AND informal economy= 109 000 publications  
social protection AND informal labour market= 17 900 publications

social insurance AND informality= 22 000 publications  
social insurance AND informal employment= 88 100 publications  
social insurance AND informal workers= 297 000 publications

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<sup>19</sup> We could not find records of scholarly research on social protection adoption pre-dating 1990.

social insurance AND informal economy= 352 000 publications  
social insurance AND informal labour market= 19 300 publications

social assistance AND informality= 29 900 publications  
social assistance AND informal employment= 242 000 publications  
social assistance AND informal workers= 753 000 publications  
social assistance AND informal economy= 868 000 publications  
social assistance AND informal labour market= 17 800 publications

social security AND informality= 37 900 publications  
social security AND informal employment= 243 000 publications  
social security AND informal workers= 986 000 publications  
social security AND informal economy= 1 210 00 publications  
social security AND informal labour market= 17 900 publications

safety nets AND informality= 17 000 publications  
safety nets AND informal employment= 18 900 publications  
safety nets AND informal workers= 20 100 publications  
safety nets AND informal economy= 18 800 publications  
safety nets AND informal labour market= 20 200 publications

cash transfers AND informality=17 100 publications  
cash transfers AND informal employment= 20 500 publications  
cash transfers AND informal workers= 37 900 publications  
cash transfers AND informal economy= 19 800 publications  
cash transfers AND informal labour market= 22 000 publications

pensions AND informality= 17 000 publications  
pensions AND informal employment= 37 300 publications  
pensions AND informal workers= 38 000 publications  
pensions AND informal economy= 44 500 publications  
pensions AND informal labour market= 31 600 publications

health insurance AND informality= 20 000 publications  
health insurance AND informal employment= 87 400 publications  
health insurance AND informal workers= 226 000 publications  
health insurance AND informal economy= 212 000 publications  
health insurance AND informal labour market= 18 600 publications

public works AND informality= 43 800 publications  
public works AND informal employment= 136 000 publications  
public works AND informal workers= 926 000 publications  
public works AND informal economy= 1 070 00 publications  
public works AND informal labour market= 17 900 publications

workfare AND informality= 1 550 publications  
workfare AND informal employment= 15 500 publications  
workfare AND informal workers= 14 400 publications  
workfare AND informal economy= 16 100 publications  
workfare AND informal labour market= 11 300 publications

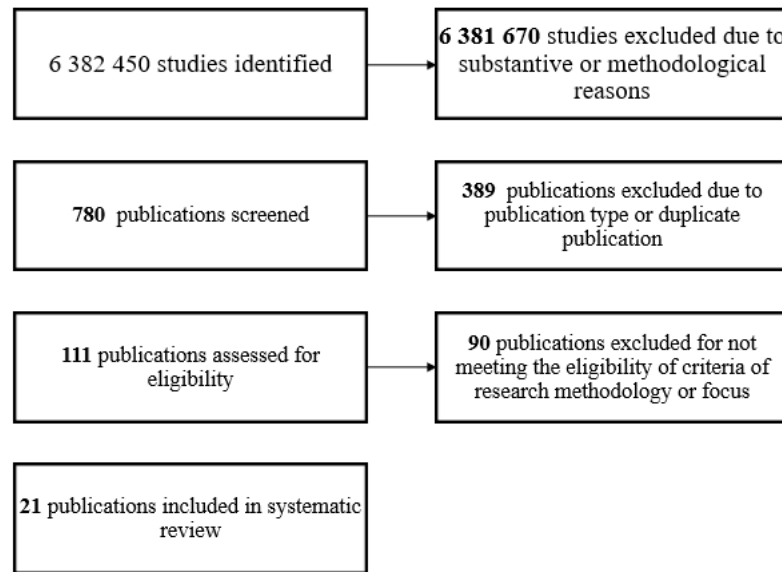
Of these results, we kept 780 relevant studies to be screened for inclusion into the review.

#### *Inclusion criteria*

Since this systematic review adopts a PICO analysis approach, we only included studies in this final eligibility stage that implement the analysis based on rigorous quantitative and qualitative methodologies. In order to determine this, the reviewers read the abstracts of each publication that turned up in the initial search, identifying from that abstract if that study focus on the informality and social protection in developing country contexts. Thus, publications were excluded if they were not relevant or because the analysis was not methodologically sound. From our initial identification stage, 780 eligible studies remained. In this screening stage, we excluded duplicate publications and irrelevant documents and reports. We did include working papers and relevant policy reports that were based on rigorous evidence. This left a total of 47 publications for eligibility review.

In the final eligibility stage, we identified and kept only those studies that adopted rigorous quantitative and qualitative methods. Ultimately, our aim is to compile studies for which we could summarize evidence of how contributory and non-contributory social protection systems intersect with any of the concepts associated with the informal economy. Therefore, papers for which the analysis is not focused on social protection and any of the concepts related to the informal economy as discussed in Section 2 were not included in the analysis. Figure A1 summarizes the protocol and study selection. In the next section, we present the synthesis of evidence.

**Figure A1. Systematic review search protocol and study selection**



Source: Authors



## Appendix II. Complementary tables

**Table A. 1. Effective social protection coverage by vulnerable populations**

Regions	Population covered (in at least one area)	Children	Mothers and newborns	Persons with severe disabilities	Unemployed	Older persons	Vulnerable groups
<b>Asia and the Pacific</b>							
Central and Western Asia	44.38	29.64	40.93	66.43	11.57	52.98	24.38
Eastern Asia	69.12	51.10	57.56	53.82	27.33	90.10	31.11
South-Eastern Asia	42.50	21.09	18.07	11.82	44.10	41.49	8.87
Southern Asia	25.93	29.44	30.96	14.93	n.a	31.94	7.58
Oceania	74.32	100.00	n.a	90.14	42.00	36.75	31.37
<b>Other world regions</b>							
Arab States	n.a	n.a	n.a	6.46	9.80	24.15	n.a
Eastern Europe	89.41	91.44	96.13	100.00	27.65	95.83	53.70
Latin America and the Caribbean	58.45	50.23	47.94	28.56	21.54	53.99	33.30
Northern Africa	36.88	n.a	55.60	4.37	n.a	37.10	n.a
Northern America	87.97	39.73	100.00	83.62	33.95	100.00	65.00
Northern, Southern and Western Europe	95.34	98.38	99.84	95.43	50.50	89.41	82.17
Sub-Saharan Africa	15.01	13.03	5.39	13.03	4.33	28.55	8.19

Source: Authors' calculations, based on the ILO (2021) World Social Protection database.

The colour scale captures the distribution of coverage, from dark green capturing the highest values to dark red capturing the lowest values, in the corresponding distribution. 'n.a' stands for the not available information.

### Appendix III. Synthesis of Evidence

**Table A. 2 Synthesis of evidence**

Author(s)	Regional focus	Country	Data	Type of policy under analysis	Estimation Methods	Definition informality	Level of statistical significance	Main findings
Handayani (2016)	Asia	20 Asian countries	n.a.	Various cases	Various, depending on the case study	Various	n.a.	Various depending on the country case study
Banerjee et al. (2021)	Asia	Indonesia	2015	Testing interventions designed to increase voluntary enrolment in the contributory social health insurance (SHI) program.	Natural experiment, OLS	Not defined	Several	The authors find that both temporary subsidies and assisted registration increased initial enrolment
Wagstaff et al. (2016)	Asia	Vietnam	2012-2013	Testing interventions designed to increase voluntary enrolment in the contributory social health insurance (SHI) programme.	RCT: logistic regression.	The informal-sector workers include the self-employed, and wage employees without a contract or with a contract that runs less than three months.	Insignificant	The authors report small and insignificant effects for all three interventions suggesting that information campaigns and subsidies may have limited effects on voluntary health insurance enrolment in the country.
Capuno et al. (2014)	Asia	Philippines	2011-2012	Testing interventions designed to increase voluntary enrolment in the contributory social health insurance (SHI) program through the Individually Paying Program (IPP).	RCT: logistic and bivariate regressions	A household is considered eligible for IPP if the household head claims not to be covered by the SHI, or claims to be covered but has not paid a premium in the preceding six months.	Several	A premium subsidy combined with information increased voluntary enrolment (5pp), although less than an intervention that reduces the enrolment burden (13 pp), i.e. the enumerator could help complete the enrolment form, deliver it to the insurer, and have identification cards mailed.
Wagstaff and Manachotphon	Asia	Thailand	1997-2005	Non-contributory health scheme.	OLS	According to the following categories: (i) employer; (ii) self-	Several	The authors find that the programme encouraged employment especially among married women, this result

g (2012)						employed; (iii) unpaid family helper; (iv) government employee; (v) government enterprise employee; and (vi) private employee.		was driven by an increase of informal-sector employment of 2 percentage points initially rising to just under 10 percentage points after three years of the implementation of the programme.
						Informal sector: (i)-(iii) + (vi), private employees, only those who earned hourly or daily wage.		
Azuara and Marinescu (2013)	Latin America	Mexico	1995-2009	Non-contributory health scheme.	Linear probability model	Individuals who do not pay mandatory social security contributions.	Several	The programme had no effect on informal employment at aggregate level, although when looking at population subgroups, they find that the scheme led to an increase of 1.7% in informal employment among the less educated workers. The programme decreased formal employment by 0.4-0.7 percentage points. However, rather than encouraging an exit from the formal economy, the health insurance was found to be associated with a 3.1 percentage point reduction in the inflow of workers to the formal sector.
Aterido et al. (2011)	Latin America	Mexico	2000-2009	Non-contributory health scheme.	Diff-in-diff	Individuals who do not pay mandatory social security contributions.	Several	By extending coverage to workers' family members, the reform generated incentives for private-sector salaried workers to 'formalize'
Cruces and Bergolo (2013). Based on results from Cruces and Bergolo (2011).	Latin America	Uruguay	2001-2009	Expansion of healthcare coverage to the partner and children of the registered worker.	Diff-in-diff	Individuals who do not pay mandatory social security contributions.	Several	Informal employment was approximately 4 percentage points higher than it would have been in the absence of the health reform.
Camacho et al. (2014)	Latin America	Colombia	1990-2005	Reform of the social security system to create a contributory regime (CR) and the subsidized	Probit model-Panel data	formal workers are all individuals in the Labor force who receive health insurance through their	Several	

				(non-contributory) Regime (SR) with the aim of achieving a universal coverage of health insurance		employer and informal are those who do not		
Hatt et al. 2019	Latin America	Nicaragua	2007	Contributory health insurance for informal workers.	Diff-in-diff	Individuals who do not pay mandatory social security contributions.	Several	Low retention rate of programme beneficiaries once subsidies to incentives take-up expired.
Garganta and Gasparini (2015)	Latin America	Argentina	2005-2011	CCT	Diff-in-diff	Unregistered workers with the national social security system	Significant at 1%.	The probability of formalization of the treatment group is reduced between 28% and 43%, respect to what would have happened in the absence of the program.
Saavedra-Caballero (2018)	Latin America	Colombia	2002-2006	CCT	Diff-in-diff + PSM	Individuals who do not pay mandatory social security contributions.	Several	The programme reduced the workers' probability of being employed in the formal sector and thus receiving social security by 3.73 percentage points in the short run.
Barrientos and Villa (2015)	Latin America	Colombia	2006-2010	CCT	RDD	Individuals who do not pay mandatory social security contributions.	Several	Positive effect in the order of 3.2 percentage points for formal employment, defined as employment with health insurance among women beneficiaries when compared to non eligible women at the margins of eligibility
Barbosa and Corseuil (2014)	Latin America	Brazil	2006	CCT	RDD	Formal employees are those who have an employment registration signed by the employer ( <i>carteira assinada</i> ). The self-employed are informal workers.	Several	The programme did not affect occupational choices among adult workers employed either in the formal or informal sector, nor changed the allocation of hours worked across formal or informal sectors.
Fruttero et al (2020)	Latin America	Brazil	2007-2011	CCT	RDD	Formal employees are those who have an employment registration signed by the employer and thus appear on the Annual Social Information Report	Significant at 1%.	The programme has a positive effect on entry in the formal labour market, especially for younger cohorts, i.e., beneficiaries are 4.7 percentage points more likely to be found at least once in a formal job in 2010 or 2011 and 3.3 percentage points more likely to be found in a formal job

						(RAIS). Informal workers are not part of this registry.		throughout these two years, compared with the control group.
Brau et al (2015)	Latin America	Brazil	2005-2009	CCT	propensity-score-weighted regression	Formal employees appear on the RAIS. Informal workers are not part of this registry.	Several	The programme induced a shift of household work hours from the formal to the informal-sector driven by urban households.
Bosch and Schady (2019)	Latin America	Ecuador	2007/08-2013/14	CCT	RDD	Individuals who do not pay mandatory social security contributions.	Several	The transfer did not discouraged work. However, among women, welfare payments led to reductions in formal employment, although the magnitude of these effects is small.
Bergolo and Cruces (2021)	Latin America	Uruguay	2005-2013	CCT	difference-in-discontinuity	Individuals who do not pay mandatory social security contributions.	Several	The programme reduced formal labour force participation among beneficiaries by about 6 percentage points and that the effect went up to 8.7 percentage points for the case single mothers, who make up about 43% of the sample
Canelas and Niño-Zarazúa (2022)	Latin America	Bolivia	2005-2011	Non-contributory old age pension	Diff-in-diff + PSM	Individuals who do not pay social security contributions.	Several	The pension reduced the probability by about 8 percentage points of having a formal salaried job for adults living with pensioners in rural areas.
Galiani et al., (2016)	Latin America	Mexico	2007-2008	Non-contributory old age pension	Diff-in-diff	Individuals who do not pay mandatory social security contributions.	Several	Pensioners reduced their participation in formal paid work by about 5 per cent in exchange for a proportional increase (about 6 per cent) in unpaid work within the household.
Dutronic-Postel and Tondini (forthcoming)	Africa	South Africa	2002-2015	Non-contributory old age pension	RDD	Individuals who work without a written contract.	Significant at 5%.	Large drop in elderly male employment driven by informal workers, i.e., 30 to 40 per cent of informal workers stop working, regardless of their level of hourly earnings, when eligible for the pension.