



**INFORMAL AND NON-STANDARD EMPLOYMENT:  
A LOOK AT THE IMPACT ON SOCIAL PROTECTION POLICY**

Tamila Nutsunidze and Khatuna Nutsunidze

CRR WP 2019-11  
August 2019

Center for Retirement Research at Boston College  
Hovey House  
140 Commonwealth Avenue  
Chestnut Hill, MA 02467  
Tel: 617-552-1762 Fax: 617-552-0191  
<https://crr.bc.edu>

Tamila Nutsunidze is a Fulbright scholar in residence at Fisher College. Khatuna Nutsunidze is a pension reform and capital markets development consultant and educator. The opinions and conclusions expressed are solely those of the authors and do not represent the views of Fisher College, the U.S. Department of State's Bureau of Educational and Cultural Affairs, or Boston College. The authors would like to thank Matthew S. Rutledge and Mauricio Soto for helpful comments.

© 2019, Tamila Nutsunidze and Khatuna Nutsunidze. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

## **About the Center for Retirement Research**

The Center for Retirement Research at Boston College, part of a consortium that includes parallel centers at the National Bureau of Economic Research, the University of Michigan, and the University of Wisconsin-Madison, was established in 1998 through a grant from the U.S. Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decision-makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center conducts a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources.

Center for Retirement Research at Boston College  
Hovey House  
140 Commonwealth Avenue  
Chestnut Hill, MA 02467  
Tel: 617-552-1762 Fax: 617-552-0191  
<https://crr.bc.edu>

*Affiliated Institutions:*  
The Brookings Institution  
Mathematica – Center for Studying Disability Policy  
Syracuse University  
Urban Institute

**Abstract**

The objective of this working paper is to review the literature on informal and non-standard employment and to highlight the increased awareness of the global society about trends in labor markets and their implications for workers and social protection policy. This paper presents information on developing, emerging, and advanced economies, especially the United States. Evidence and hypothetical findings suggest that working-life poverty and retirement income insecurity are the main consequences of the growth in informal and non-standard employment arrangements. High risks of poverty and vulnerability among workers emphasize the important role of the state and in particular public social insurance and non-contributory pension programs.

## Introduction

Informal employment has always been associated with the developing world. It is an important contributor to economic growth and remains the main source of employment for the poor<sup>1</sup>.

Informal employment also plays a significant role in the developed world. It can be found in the United States, Canada, and most advanced European economies (United Kingdom, Germany, France, etc.), Australia, and in developed Asia (Japan, Singapore, South Korea, etc.). Traditionally, informal employment has been viewed as agricultural and other rural employment. Self-employment, as well as different manual and household employment, has often been referred to as being part of informal sectors, i.e., sectors outside of tax and regulatory systems<sup>2</sup>. However, the forms of employment, both in the developing and developed worlds, have been evolving over time, as has public policy perspective on employment.

Today, informal employment is widely viewed as precarious and insecure (not covered by employer-sponsored social protection benefits), both in rural and urban areas, and within developing and developed worlds.<sup>3</sup> Most importantly, informal employment is found more and more often within formal sectors (i.e., within the tax and regulatory system) due to the process

---

<sup>1</sup> In many developing and emerging countries, the contribution of informal enterprises to gross domestic product (GDP) and gross value added (GVA) is substantial. For instance, estimates of the average (unweighted) share of the informal sector in non-agricultural GVA vary from a low of 14 percent in Eastern European and Central Asian countries to of 30 percent in Colombia and Guatemala, and of 46 and 50 percent in India and sub-Saharan Africa respectively. This reflects the importance of the informal sector in their total GVA (ILO and WIEGO 2012; WIEGO 2019). Informal work plays an important poverty reduction role particularly in countries with sizable informal sectors and in which social protection policies are weak (Chen et al. 2005; Chen 2007; Winters 2002; World Bank 2009).

<sup>2</sup> While in the broadest sense informal economic activities can also include illegitimate criminal activities and a “shadow economy,” this working paper excludes a discussion of those areas.

<sup>3</sup> International Labour Organization suggests that missing social protection coverage such as a pension (provided through employer) makes employment arrangements informal. This is described in greater detail in the next section of the current working paper.

often referred to as “informalization” of jobs<sup>4</sup>. Most non-standard jobs<sup>5</sup> such as temporary, part-time, casual work, are unprotected and insecure from social protection<sup>6</sup> policy perspective.

In this working paper, we discuss both informal and non-standard forms of employment since they have similar social protection policy implications and consequences for workers in developing and developed countries. Workers with informal and non-standard employment arrangements represent substantial parts of world economies and labor forces. For instance, millions of workers in the U.S. are involved in informal and non-standard employment, including agricultural and nonagricultural workers, self-employed and hired workers, and white- and blue-collar workers. These workers can work both in real off-line<sup>7</sup> and gig economies and can combine multiple jobs, including formal traditional jobs. Most temporary and part-time workers, who represent the most vulnerable category, are employed in education and health industries (over 30 percent), professional and business services (15 percent), and construction, retail, leisure, hospitality services (around 10 percent each). They often combine this work with other non-standard work they can find off-line or through electronically mediated platforms, such as driving for a ride-share company, doing housekeeping or technical writing, or performing some other job<sup>8</sup>.

On a global scale, most of the workers in informal and non-standard employment live in poverty or are at high risk of poverty during their work life. Even in the U.S., most of these workers, when compared to traditional workers with more stable employment, are more likely to live below poverty thresholds and be dependent on federal and state assistance (GAO 2015). Additionally, these workers, while representing about 70 percent of the labor force in the

---

<sup>4</sup> The term “informalization” refers to the replacement of jobs that are formal, standard/traditional jobs, with jobs that are non-standard, and often less formal. The phenomenon started decades ago and is due to globalization, economic development and technological progress, automation, digitalization, and innovation. It shows that production forms are changing fast and moving out of large and registered factories and firms toward decentralized, flexible, specialized and automated units, as well as digital platforms that often offer flexible, low-quality, low-paid, and less formal or informal employment (ILO 2013; ILO 2018c).

<sup>5</sup> In contrast to non-standard jobs/employment, standard employment (often referred to as “traditional” in the U.S.) is full-time and permanent and subordinated by employer at a.

<sup>6</sup> “Social protection” is an umbrella term that also encompasses “social insurance.” In this working paper, the term is used to refer to social protection systems that encompass both contributory (social insurance) as well as non-contributory systems. It is noteworthy to mention that in the economic literature, the terms “social protection” and “social security” are often used interchangeably.

<sup>7</sup> Here “real” is used in order to differentiate online from regular work activities.

<sup>8</sup> Fox (2014) discusses trends related to self-employment occupational categories and emphasizes the growth in self-employment within recent decades. A variety of highly demanded physical and technical work is actively undertaken by self-employed workers and freelancers today.

developing world and less than 20 percent in the developed world, lack access to social protections, including pension coverage (ILO 2018c). In the U.S., a very small number of these workers have access to private pension plans available through employers (BIS 2018). Thus, the nature of informal and non-standard employment, as well as gaps in existing labor and social protection policies, leave many of the world's workers vulnerable and unprotected.

This working paper reviews reports and articles by international organizations and federal agencies, such as the European Commission, the International Labour Organization, the International Monetary Fund, the Organization for Economic Cooperation and Development, the World Bank, the United Nations, the U.S. Government Accountability Office, and the Bureau of Labor Statistics of the U.S. Department of Labor, as well as research and working papers by leading U.S. economists and other experts on the nature, extent, and policy relevance of informal and non-standard forms of employment.

We discuss informal and non-standard employment and explore its impact on social protection policy, particularly retirement and pension policy, in developing and developed countries, with an emphasis on the U.S. The goal is to weigh in on the debate about placing informal employment and non-standard employment issues on the international and national policy agendas and emphasizing the need and feasibility for improvement of relevant social protection policies.

The working paper is organized as follows. The first section explains basic definitions and concepts related to informal and non-standard employment and their relevance to social protection policy. The second section describes the scope of informal and non-standard employment worldwide, including in the U.S. The third section discusses some of the most obvious challenges associated with these forms of employment and their causes and relevant policy implications, particularly for the U.S. The fourth section suggests that global policymakers can potentially contribute to changes in social protection policy in order to improve pension coverage for workers. The final section concludes and identifies specific issues for further research.

## Background: Definitions, Concepts, and Policy Relevance

### *Informal Employment*

The International Labour Organization (ILO) adopted international definitions, concepts, and frameworks related to the informal sector and informal employment worldwide. In general, informal employment includes self-employment, wage employment, and non-remunerative work undertaken in income producing enterprises and households. ILO (2013; 2018b) defines informal employment according to a “legalistic” or “social protection” view based on the characteristics of the production units (enterprises) and job status and identifies two categories of workers: workers involved in informal employment within the informal sector<sup>9</sup> and workers involved in informal employment outside the informal sector (i.e., within the formal sector).

In general, the concept of *informal employment in the informal sector* encompasses economic activities that are outside tax and regulatory policies (including registration, taxation, labor and social protection policies). However, *informal employment outside the informal sector*, i.e., within the formal sector, is a job-based concept, and it is defined in terms of the employment relationship and protections associated with the job. According to the ILO methodology, in practice, the formal or informal nature of a job held by an employee is determined based on operational criteria related to social protection and employment policies. Those operational criteria include social protection contributions, most importantly and specifically, pension contributions by the employer (on behalf of the employee), and also entitlement to employee benefits such as advanced notice of dismissal, severance pay, paid sick leave, and paid annual leave, etc.<sup>10</sup> In other words, informal jobs beyond informal sectors, in law or in practice, are not subject to labor legislation and regulations or social protection (ILO 2003; ILO 2018c).

The differences between *informal employment in the informal sector* and *informal employment outside the informal sector* create important implications for social protection policy, and they represent important, but different, targets for policy-making. While workers employed in both the informal sector and the formal sector often lack access to official social protection systems, the concern related to *informal employment outside the informal sector* is

---

<sup>9</sup> Often referred to *informal sector workers*.

<sup>10</sup> These operational criteria are to be determined in accordance with national criteria and circumstances (ILO 2018c).

focused on the flexibility, precariousness, and the unprotected nature of the employment contract (ILO 2013).

### *Non-standard Employment*

Non-standard employment<sup>11</sup> describes a diverse set of employment arrangements that can be precarious and that often overlap with *informal employment*. Therefore, they also raise similar social protection policy implications related to the forms of employment relations and the unprotected nature of the employment contract (ILO 2016).

Non-standard workers in formal sectors include: 1) workers involved in temporary employment; 2) part-time and on-call workers; 3) workers involved in temporary agency work and other working arrangements that include multiple parties; 4) workers with disguised employment relationships and dependent self-employed workers. These workers usually have less formal contracts, or no contracts at all, and lower earnings. Most importantly, they often lack access to employment and social protection benefits since they are often outside the scope of labor and social protection laws and regulations, or they do not meet qualifying thresholds in terms of earnings, length of employment and/or numbers of hours worked. Thus, workers in non-standard employment arrangements tend to be more frequently in informal employment. This is particularly the case for temporary, part-time, and on-call workers (ILO 2016; ILO 2018b). However, workers in non-standard employment arrangements are not always informal by law and/or practice depending on different jurisdictions<sup>12</sup>.

### *Informal and Non-standard Employment in the U.S.*

Smith Nightingale and Wandner (2011) highlight that in the U.S. and many other advanced countries, there are numerous definitional complexities related to informal employment, which is found both within informal and formal sectors. Informal employment can

---

<sup>11</sup> Like the concept of informal employment outside informal sector, non-standard employment is another umbrella term that also describes a diverse set of employment arrangements.

<sup>12</sup> There can be different distinctions between the above-mentioned concepts that set some informal employment arrangements apart from non-standard ones, depending on countries and their regulatory and working practices and traditions. One of the most important distinctions between the terms *non-standard employment* and *informal employment* is related to self-employment in both the developing and developed words. While in developing and emerging economies, workers depend on the form of self-employment as a means of subsistence, in advanced economies, self-employed individuals are often better regulated by laws and receive partial legal protection. Hence, not all self-employed workers are in informal employment, particularly in advanced economies (ILO 2016).



often be considered illegal under U.S. legislation since it is characterized by, for example: not reporting for tax purposes by self-employed entrepreneurs and other workers; dealing and manufacturing counterfeit goods; performing work by unauthorized immigrants. Smith, Nightingale, and Wandner (2011) state that the distinction between formal and informal work can be ambiguous in the U.S., for example, counterfeiting can happen within legitimate business activities, and illegal immigrants can perform legitimate economic activities<sup>13</sup>. The authors underline that, in addition to those complex activities, informal employment can also include various regular economic arrangements in the U.S., and suggest that informal employment often overlaps with non-standard employment.

Attention to non-standard employment in the U.S. has been increasing in recent years. Reports and independent research studies suggest significant changes in the U.S. labor market – millions of workers are no longer in traditional full-time, year-round jobs<sup>14</sup>.

In the U.S., non-standard employment refers to the term *nontraditional employment* and encompasses *contingent work*, *alternative employment arrangements*, and *electronically mediated employment* (GAO 2019). It is worth mentioning that these three arrangements overlap<sup>15</sup> and are often informal by nature (i.e., not covered by employment and social protection policies). Thus, they raise important social protection policy implications.

As in many other countries, the concept of *contingent work* in the U.S. can be viewed narrowly or broadly. In general, contingent workers include those who do not have an implicit or explicit contract for ongoing employment. Workers in *alternative employment arrangements* include those with expectations of continuing employment arrangements: 1) independent contractors; 2) on-call workers; 3) temporary help agency workers (with and without temporary jobs); 4) workers provided by contract firms (BLS 2018). In addition to contingent workers and workers with alternative employment arrangements, a new category of workers has been identified in relation to the gig economy. *Electronically mediated workers* include the rest of non-standard workers in the U.S. who obtain employment through mobile applications and

---

<sup>13</sup> Smith Nightingale and Wandner (2011) underline that in the U.S., when informal employment is considered it is always viewed in terms of black market (i.e., criminal and illegal) activities, undocumented immigrants, or white-collar tax evasion.

<sup>14</sup> GAO (2019) increases awareness regarding non-standard employment in the U.S. and discusses the importance of reassessing the concepts and measures of non-standard employment by the Bureau of Labor Statistics.

<sup>15</sup> For example, a worker that temporarily drives for a ride-share company while waiting to start a new job would be considered both a contingent worker and an electronically mediated worker (GAO 2019).

websites that both connect workers with customers and arrange payment for tasks. Most workers who are now under this category previously were simply identified as self-employed and independent contractors.

Eligibility for employer-provided employment benefits, such as health insurance, family leave, pension or retirement plans for contingent and alternative workers varies across the groups and specific employment arrangements. On average, U.S. non-standard workers are less likely to be eligible for employer sponsored health insurance and pension and retirement plans compared to workers in traditional employment arrangements (BLS 2018). This issue is discussed in more detail in section three.

## **Informal and Non-standard Employment Data and Statistics**

### *Informal Employment: Global Outlook*

Statistical information suggests that informal employment, both in informal and formal sectors, is in wide use in the developing and developed worlds<sup>16</sup>. Globally, two billion of the world's employed population ages 15 and over work informally, representing over 60 percent of global employment. The ILO estimates the size of informal employment to be over 18 percent in advanced countries and almost 70 percent in developing and emerging countries. Informal employment is prevalent in informal sectors of the developing world (ILO 2018c). Despite significant improvements in business regulatory environments, as well as economic growth, in developing and emerging economies, informal employment has remained high during the last two decades (World Bank 2019).

The share of informal employment varies significantly by region (see Figures 1 and 2). The highest levels of informal work are in Sub-Saharan Africa and Southeast Asia (around 90 percent)<sup>17</sup>. In contrast, the lowest numbers are found in developed Europe and northern America (the U.S. and Canada). This pattern demonstrates a strong correlation between the levels of socioeconomic development, education, and formal employment. Additionally, women's

---

<sup>16</sup> ILO (2018c) states that half of the world's employed population work informally in non-agricultural activities.

<sup>17</sup> Statistical information discussed and presented in the current working paper, show the number of workers involved in informal employment (both in informal and formal sectors) according to the workers' main jobs. It does not identify situations of workers who combine formal and informal jobs as second or third jobs. Considering workers combining all jobs would obviously lead to higher proportions of informal employment worldwide (Private communication with ILO representative, Florence Benet, 2019).

involvement in informal employment also significantly correlates with socioeconomic development and is lower in countries with high economic development (ILO 2018c). It is worth mentioning that a substantial part of informal employment is represented by self-employment.

While the ILO does not make strong conclusions regarding regional and global trends, some countries show either an increase or decrease in informal employment. Furthermore, almost all countries in Eastern Europe and Central Asia show increases in informal employment, which plays an important role particularly in countries with transitioning economies (ILO 2018c)<sup>18</sup>.

Across the globe, informal employment substantially overlaps with non-standard employment, specifically in developing and emerging countries.

#### *Non-standard Employment in Developing, Emerging, and Advanced Economies*

Studies identify a strong link between structural changes such as globalization, digitalization, and the 2007 global crisis, and an increase in nonstandard employment in recent years throughout the world<sup>19</sup>.

ILO (2018b) suggests that temporary and part-time employment is one of the most significant forms of non-standard employment that is either increasing or has remained stable during the last decade in the largest emerging and advanced economies. The highest incidence of temporary employment is found in emerging Asia, as well as in Africa and South America. Its magnitude can vary from over 30 percent in China to a high of 80 percent in Indonesia, compared with about 15 percent in the European Union countries (ILO 2018b; ILOSTAT 2019).<sup>20</sup>

It is worth mentioning that temporary employment, and especially temporary part-time employment, is the most vulnerable form of employment. Figure 3 shows that the share of informal employment among non-standard workers is the highest for employees in temporary,

---

<sup>18</sup> This is particularly obvious in the Russian Federation, Serbia, and Moldova (ILO 2018c). Increasing and high levels of informal employment are also found in Ukraine (Commander et al. 2013; Front News 2019; Miroshnichenko 2012; Onoshchenko 2012) in recent years. Additionally, informal employment is increasing in Central Asia (Kidd 2017).

<sup>19</sup> For instance, in most of the European Union member states the proportion of non-standard employment has increased since 2007 (European Commission 2015; 2017). A similar trend is found in the U.S. (Katz and Krueger 2019).

<sup>20</sup> There are challenges related to statistics on non-standard employment. Concepts and definitions describing non-standard employment can greatly vary from country to country, making it difficult to compare countries (ILO 2016).

part-time jobs in developing and emerging countries (on average over 90 percent and about 80 percent, respectively), and about 22 percent in advanced countries (ILO 2018b; ILO 2018c).

Employment through digital labor platforms is often temporary and part-time. Estimates suggest that this sort of employment remains small – for instance, approximately 3 percent of the labor force in Europe (ILO 2018a). However, one study suggests that the global rate of utilization of digital labor platforms is growing by approximately 25 percent a year (Graham et al. 2015). Employment through digital labor platforms is more common for the U.S. and European, Asian, and Latin American countries (ILO 2018a).

### *Informal and Non-standard Employment in the U.S.*

Estimates of the scale of both informal employment and non-standard employment in the U.S. are not complete. Smith Nightingale and Wandner (2011) suggest that different studies show estimates of a very large range of total informal employment, from 3 percent to 40 percent of the total U.S. labor force. According to Smith Nightingale and Wandner (2011), it is difficult to know the extent of informal economic activity in the U.S. due to the complexity and lack of uniformity in the definition of informal work and problems with measurement related to unauthorized and otherwise informal economic activities.

Similarly, the U.S. Government Accountability Office (GAO) estimates that the size of total non-standard employment as a proportion of the total U.S. employed labor force can range widely, depending on how it is defined. For instance, when including all self-employed and part-time workers, non-standard workers reached over 40 percent of the total work force in 2010 (GAO 2015).

The U.S. Department of Labor’s Bureau of Labor Statistics BLS (2018) estimated that in 2017, about 4 percent (5.9 millions) of the total working population worked as “contingent” workers, i.e., temporary workers, who most likely work part-time. The number has been stable for many years and may have even decreased slightly. GAO (2019) states that the data on contingent workers needs more research since, in contrast to the BLS number, studies suggest a significant increase in other forms of non-standard employment in the U.S.

## **Causes, Consequences, and Policy Implications of Informal and Non-standard Employment**

### *Overall Prospect of Workers*

All over the world, informal and non-standard employment arrangements provide workers with opportunities to enter labor markets and avoid unemployment. For example, in the developing world, with its large informal sectors, self-employment, micro and small entrepreneurship, manual and casual employment, provide workers and their households with a living subsistence. In the developed world, informal and non-standard employment allows young people, mid-career workers, and retirees to work part-time or have additional income. However, evidence suggests that worldwide, most people undertake informal and non-standard employment not by choice but as a consequence of a lack of opportunities in labor markets and due to the shortage of “good jobs”(ILO 2018c; WB 2019).

Additionally, overall prospects for workers in informal and non-standard employment are not positive. As mentioned earlier, informal and non-standard employment is often precarious and insecure. These workers lack access to employment and social protection benefits, including retirement savings and pension coverage. Additionally, informal and non-standard working arrangements also provide fewer opportunities for transitioning to permanent jobs and gaining promotion, for establishing a career path, and for commanding higher earnings over a working life, and, most unfortunately, they often lead to unemployment (ILO 2016).

Informal and non-standard workers are at much higher risk of income insecurity and poverty during their work lives and in retirement than standard, traditional workers who have formal full-time, permanent employment arrangements and are usually covered by labor and social protection policies. Figures 4, 5 and 6 present comparisons of poverty rates for workers in informal and formal employment in selected regions and countries. The poverty rates suggest that in developing, emerging, and advanced countries a strong correlation exists between poverty and informal job arrangements. As is the case with informal employment, across Europe the risks among non-standard workers and the self-employed are high compared to standard workers (EC 2017). In the U.S., non-standard workers are much more likely than standard workers to live in poverty, and (as is in Europe) they are more likely to be dependent on federal and state assistance and welfare such as cash assistance programs, the Supplemental Nutritional Assistance Program (known as food stamp program) and Supplemental Security Income (GAO 2015).

It is also worth mentioning that not all workers in informal and non-standard employment are poor. In developing and emerging countries, informal sector jobs and other informal jobs represent the main source of employment and can possibly provide entrepreneurs and other workers with decent levels of income (ILO 2018c; WB 2009). However, the risk of poverty is substantial since earnings are often distributed among dependents in households. Additionally, the income levels for some well-educated and experienced freelancers in developed Europe can be significantly higher than workers doing similar work in standard employment. In the U.S., the earnings of experienced self-employed workers can be comparable to those employed in standard jobs (BLS 2018; GAO 2015; Katz and Krueger 2019). However, this discussion illustrates the exception rather than a trend for all of the workers involved in informal and non-standard employment.

Below, we first look at particular challenges of informal employment in the developing world, since any discussion of the impact of sizeable informal sectors and informal employment in those countries on social protection systems cannot be significantly separated from the discussion of non-standard employment. Then, we discuss causes and consequences of non-standard employment in mostly advanced countries with an emphasis on the U.S. Both subsections look at the work and retirement income security of the workers and the relevant policy implications.

#### *Developing World: Challenges of Informal Employment and Relevant Policy Implications*

Historically in developing and emerging countries, informal sectors and informal employment have been associated with a lack of legal and regulatory frameworks, including low levels of social protection available to workers (ILO 2017; World Bank 2009).

Unpaid domestic and family work, all remunerative work including self-employment, casual employment, micro-entrepreneurship, and others, have been important informal economic activities for the poor in many developing and emerging countries. However, informal work in many cases provides workers and their families with little more than a subsistence living. National poverty rates indicate the potential impact of informal work on earnings. Women are usually very vulnerable and have lower income than men<sup>21</sup>.

---

<sup>21</sup> Studies conducted by ILO, World Bank, and a number of researchers and other organizations confirm poor earnings and conditions of women and men in informal sectors in Asia, Africa, Latin America and Caribbean.

Workers engaged in informal employment outside informal sectors are also very vulnerable in terms of earnings. Low incomes are the product of weak registration and taxation regulatory frameworks and a lack of labor and social policies. Only about 50 percent of emerging countries and over 10 percent of developing ones have implemented unemployment insurance systems (IMF 2019).

In many developing and emerging countries, pension systems are often established for dependent employees. Thus, informal elderly workers' ability to earn a living is often strongly dependent on remaining physically and mentally active, particularly in countries with large agricultural sectors and significant manual labor. A number of studies show that in Asia, Africa, and Latin America, the pension coverage is low, and workers face significant challenges in providing for their own retirement; the vast majority of elderly live in poverty and/or insecurity (Kidd 2017; UN 2018). Even in countries in which informal sectors and employment prevails, such as Bangladesh, India, Indonesia, Nigeria, and Pakistan, which account for about a third of the world's population, the percentage of people covered by pension systems has not exceeded single digits for decades (Rutkowski 2018). For instance, in Asia, existing mandatory pension systems mostly provide coverage for formal workers and coverage is low (with the lowest in India (5.5 percent), Pakistan (6.3 percent) and the highest in Malaysia (33.5 percent) and China where coverage reaches 50 percent (OECD 2018b)<sup>22</sup>. In Latin America and Caribbean the coverage on average reaches 56 percent. However, this figure is strongly influenced by coverage in a small number of populous countries, such as Argentina, Brazil, and Mexico (Kidd 2017). In Africa, less than third of older people on average are covered by any social protection programs, and the number is about 17 percent in Sub-Saharan Africa (ILO 2017)<sup>23</sup>.

Additionally, in most developing and emerging countries, existing poverty—targeted pension programs usually provide coverage for a minority of the population and often create substantial coverage gaps that leave millions of informal workers unprotected (United Nations 2018).

The main challenge in most developing and emerging countries is that social protection systems are usually established for workers involved in formal employment, but the level of

---

<sup>22</sup> Kidd (2017) underlines that achievement of a significant coverage level in China is mostly due to government incentives that may not have a continuing effect in a long-run.

<sup>23</sup> Pension coverage in the south of Africa is rather moderate.

formalization is low. A related problem is a reduction in the number of workers who contribute to the pension plans. This trend was found in Latin American countries, where coverage gaps have expanded substantially (Holzmann, Robalino, and Takayama 2010), as well as in Eastern European and Central Asian countries (Palacios and Knox-Vydmanov 2014). Furthermore, in the Eastern Europe and Central Asia reductions in formal employment challenge social protection systems that are traditionally based on payroll contributions<sup>24</sup>. Thus, the trend of growing “informalization” in the region jeopardize the proportion of covered workers since fewer workers will be able to contribute to pension plans.

*Evidence in U.S. and Other Economies: Policy Implications of Non-standard Employment*

Studies suggest that often the less formal, insecure and precarious employment arrangements of non-standard workers lead to lower wages and exclusion from bonuses, overtime payments, and employment benefits such as unemployment, maternity, healthcare insurance, and pension and retirement savings benefits.

*Work life Earnings of Non-standard Workers.* In general, the earnings of non-standard workers differ from the earnings of standard workers. While ILO standards and EU directives exist to regulate minimal wages, in practice, wage gaps for non-standard workers can vary from a few percentage points to 60 percent of standard workers’ wages in different countries (with the highest rates in emerging countries). Empirical findings suggest that worldwide wage differences between standard and non-standard workers, even if controlling as much as possible for job and worker characteristics, are significant. For instance, wage penalties (i.e. disadvantages in pay relative to standard workers) for temporary workers in developed Europe vary from 10 percent to 20 percent and are the highest in Germany and France. Additionally, it is typical that part-time workers’ wages are not high (ILO 2016).

In the U.S., non-standard workers earn about 10 percent less per hour on average than standard workers earn and about 50 percent less annually, since they work fewer hours per week as well. Additionally, a typical temporary, contingent worker earns a median annual personal

---

<sup>24</sup> In most of the post-Soviet countries, pension systems are based on payroll contributions; this reflects their Soviet history. In Soviet Union member countries, social protection systems were based on social insurance bases.



income that is roughly \$20,000 lower than that earned by a traditional worker (GAO 2015). Contingent and temporary help agency workers (not necessarily in temporary jobs) and on-call workers, among other types of the non-standard workers, earn the lowest wages in the U.S. (BIS 2018; Katz and Krueger 2019). Additionally, non-standard workers, and in particular temporary workers, are often left uncovered by U.S. labor protection policies such as unemployment and health insurance policies (GAO 2015; BIS 2018)<sup>25</sup>. Additionally, available information suggests that women's earnings are substantially lower for all groups of non-standard workers compared to their male workers counterparts.

In contrast to the most vulnerable U.S. non-standard workers, earnings for about half of independent contractors, who tend to be more educated, experienced and self-employed, are more likely to be higher than those of other non-standard workers and can also be comparable to earnings of traditional American employees (GAO 2015; Katz and Krueger 2019).

*Retirement Income Security of Non-standard Workers.* In general, the consequences of non-standard employment in retirement are not much explored across the world. The problem of pension coverage of non-standard workers is prevalent in countries with payroll-based contributory pension systems. Workers with short tenure, low-earning workers, and workers who work too few hours have limited or no access to social protection entitlements. This problem is common for both the developing world and advanced countries with well-established payroll-based contributory pension systems that have changed very little since they were first implemented for workers engaged in stable full-time jobs (ILO 2016; ILO 2018b; OECD 2018a; European Commission 2015; 2017).

Studies suggest that, in general, temporary and part-time workers are the most vulnerable since they are more often excluded, at least partially, from social protection coverage (in many developing and emerging countries across the world) or are entitled to lower pensions (for instance in the European Union (EU) member countries)<sup>26</sup>. For instance, the problem of lower

---

<sup>25</sup> One-fourth of temporary workers have employer provided health insurance, compared with half of the rest of workers. However, most temporary workers do not receive health insurance from their jobs; a substantial share, nearly 3 in 4, have health insurance from some source, including coverage from another family member's policy, through a government program, or by purchasing it on their own (BIS 2018).

<sup>26</sup> The ILO states that in developing and emerging countries non-standard workers lack access to any social protection retirement coverage (ILO 2016). In European Union member countries, almost all workers have access to both contributory and non-contributory pensions. However the problem of adequacy is prevalent to developing member countries (European Commission 2015; 2017).

pension benefits that arise due to low levels of contributions is prevalent in many EU member countries where pensions are closely linked to contributions (for example, Bulgaria, Hungary, Ireland, Slovakia, and Romania). However, in the rest of the EU, where non-standard workers have access to an adequate public basic pension regardless of employment status (as in Denmark, the Netherlands, Finland, and Sweden), the problem is less of an issue (European Commission 2015).

Specific types of vulnerable workers in EU member countries, in terms of statutory access, besides temporary and part-time workers, include: temporary agency workers, on-call workers, casual workers, seasonal workers, as well as immigrant workers (European Commission 2015; 2017). Additionally, with respect to self-employed workers, the most problematic issues related to statutory access to social protection arise when social protection is organized on a social insurance basis, i.e., based on contributions from the employee and the employer (European Commission 2017).

While having access to public social protection should be an important factor retirement security for U.S. non-standard workers, evidence suggests that the situation can be challenging for these workers. In the U.S. certainly, all non-standard workers have full access to the benefits provided by the state social insurance program: Social Security. However, specific situations of non-standard workers, such as lower earnings and precarious employment, in particular for temporary and other low-earning workers (for example, on-call and temporary help agency workers), can potentially impact Social Security coverage and benefit levels. Related findings made by Rutledge et al. (2019) suggest that non-standard workers, in particular temporary workers, are less likely to be eligible for potential Social Security disability benefits and are more likely to have lower potential benefits. Rutledge et al. (2019) found that this is due to two main reasons. First, these workers, may be employed spottily and therefore not qualify for Social Security disability program requirements. Secondly, even though non-standard workers are working consistently, their earnings are often unreported or underreported, and as a result, they often do not accumulate enough covered work history to be eligible for the benefits.

In the U.S., most non-standard workers are not offered a pension and retirement plan but are covered by Social Security (BIS 2018; Gale et al. 2016). Contingent workers as a group, are the most vulnerable; only around 20 percent of the workers compared to about 50 percent of all other non-standard workers, are eligible for employer-provided pension or retirement plans. In

fact, only 18 percent of temporary workers participated in such plans in 2017. Among other non-standard workers, who are not necessarily involved in temporary work, temporary help agency workers (13 percent) and on-call workers (35 percent) are also less likely to be eligible to for employer sponsored retirement and pension plans (BIS 2018). Independent contractors, as a group, almost completely represented by self-employed individuals, are excluded from employer-provided private pension plans.

Additionally, less is known about electronically mediated workers in the U.S., who can often be represented as self-employed and have temporary and half-time employment arrangements. There is neither data on private pension participation of electronically mediated workers in the U.S. (BLS 2019), nor evidence of their eligibility for retirement plans available through an employer in the gig economy (Gale et. al., 2016).

In general, whether in the U.S. or in the rest of the world, much work within the gig economy is out of any regulatory framework. In fact, across the globe, the digital economy is highly self-regulated and does not offer workers any employment and social protections (ILO 2018a).

Obviously, having Social Security coverage is also vital for self-employed independent contractors, as well as electronically mediated workers. However, their eligibility for Social Security and their benefit levels can be jeopardized since their earnings are often unreported or underreported. In fact, U.S. independent contractors and electronically mediated workers do not disclose some or all of their earnings. Bruckner et al. (2019) estimated that in 2014 over 3 million independent contractors underreported self-employment income, potentially resulting in about \$5 billion of self-employment tax that should have been paid, and approximately \$4 billion constituting non-payment of Social Security contributions. Moreover, a large share of the U.S. gig workers are not reporting all of their income either. This resulted in an estimated non-payment of \$2 billion to Social Security in 2014 (Bruckner 2019). Evidence suggests that, as it is the case in the U.S., gig economy workers' earnings worldwide are usually unreported (ILO 2018a).

A related problem is the misclassification of U.S. workers. . The problem is also prevalent worldwide, and creates risks of lower social protection benefits and eligibility. Non-standard workers can be misclassified as self-employed, contract employees by themselves and their employers in order to go untaxed or avoid costs related to social protection and employment

benefits associated with contractual employment relationship (ILO 2013; MERCER, CFA 2015)<sup>27</sup>. GAO (2009) states that it is difficult to measure the extent of misclassification in the U.S., which is potentially substantial.

*A Lack of “Good Jobs.”* While legal and statutory requirements can limit access to retirement security for non-standard workers worldwide, including in the U.S., another common reason that workers do not have access to pension participation is that employers simply do not offer employees access to social protection benefits. The reasons can differ from employers’ desire to reduce business costs and to the lack of firms/companies that are financially sustainable and able to cover their workers with social protection benefits (ILO 2016; World Bank 2019).

Wu and Rutledge (2014) suggest that in the U.S. one of the primary reasons for the lack of pension coverage for lower income workers can be the lack of employment itself and, in particular, employment within firms that offer access to pension programs. Moreover, Munnell, Fraenkel, and Hurwitz (2012) found that more than one-third of U.S. households have never been covered by private pensions, and the lack of pension coverage is concentrated heavily among lower-income households. It is worth mentioning that among the most vulnerable are immigrant employees whose work is outside of the regulatory system, which makes them ineligible for social protection coverage (Smith Nightingale and Wandner 2011).

Additionally, while social protection programs that entitle (by law) non-standard workers to pension programs may exist, the reasons for low participation and coverage can be related to the lack of application of social protection laws and regulations in practice worldwide (ILO 2018c).

## **A Review of Policy Recommendations: Achieving Decent Retirement**

International society is increasingly aware of current labor trends and their impact on work patterns, living standards, inequality, societies, and consequently, labor and social protection policies. The main policy recommendations provided by international organizations

---

<sup>27</sup> As economic literature suggests, challenges associated with misclassification of employees often relate to self-employment: exclusion of self-employed individuals from private pension programs create unfortunate arbitrage opportunities that encourage some employers to require their employees to become self-employed as contractors (MERCER, CFA, 2015). Katz and Krueger (2019) underline that workers are being misclassified as contract employees or work being redefined to make greater use of contract workers and independent contractors.

and experts include efforts aiming to increase the “formalization”<sup>28</sup> of jobs and make informal and non-standard employment decent.

On the one hand, it is important to “disaggregate” informal employment into policy-relevant categories, including social protection and tax and registration policies (Keen 2015). On the other hand, policymakers need to make improvements in social protection and labor laws and regulations in order to ensure adequate life-long and old-age income for workers with informal and non-standard employment arrangements.

Policy recommendations provided for countries in which informality and poverty prevails have been focused on the need for reimagining social protection systems to adapt labor market conditions that “... shift the pattern of demanding worker benefits from employers to demanding welfare benefits directly from the state”. Expansion of social protection toward universality through a combination of contributory social insurance and non-contributory programs and tax-financed guaranteed minimum basic protections to the most vulnerable are suggested as essential policies in those countries (Rutkowski 2018; World Bank 2019). Most importantly, the emerging consensus is on a greater reliance on the state and on financing through general government revenue sources in order to close coverage gaps<sup>29</sup>.

Many countries in the developing world have already undertaken measures to improve their pension systems through implementing and/or enhancing social insurance and non-contributory pension policies to adapt to the needs of their workers. However, the main challenges still include the lack of pension coverage and benefits adequacy. Most importantly, the near- and long-term sustainability of public pension systems is one of the main issues, particularly in less developed countries (ILO 2017; United Nations 2018)<sup>30</sup>.

---

<sup>28</sup> The term “formalization” is often used in economic literature to describe the process of transition of jobs to formal economy.

<sup>29</sup> There has been a growing interest in non-contributory social protection and in particular, old-age pensions during the last two decades. Many studies provide rationale regarding implementation of non-contributory social protection systems in less developed countries and even argue the World Bank multi-pillar approach that requires sufficient contributory capacities of workers (Barr 2012; Barr and Diamond 2009; Kidd 2019).

<sup>30</sup> In fact, governments in many developing and emerging countries have been implementing measures to increase coverage of the most vulnerable, including informal workers, through the combination of adapted contributory social insurance and non-contributory poverty targeted programs. The United Nations report (2018) underlines that governments in many countries tried to expand the coverage of existing contributory social insurance schemes by adapting contributions and administrative procedures to the situation of workers in informal employment or by subsidizing contributions. Some countries, however, have put new schemes in place. In Uruguay, for instance, tax authorities and the social security administration have created a simplified collection scheme for small contributions - the “monotax” - to promote coverage among workers and companies that are not otherwise covered by the social security system. Additionally, the report identifies that some countries have designed micro-insurance schemes

Policy options to address the challenges related particularly to non-standard employment most specifically highlight the need to strengthen the resilience and adaptability of payroll-based contributory pension models to ensure that non-standard workers are not left uncovered by systems that were set up with formal sector traditional workers in mind.

For instance, one set of recommendations includes changes to regulatory and legal systems such as: eliminating or reducing thresholds on minimum earnings, hours, or duration of employment; making systems more harmonized and flexible with regard to contributions required to qualify for benefits; and allowing for interruptions in contribution periods in order to allow all to contribute. Additionally, simplifying procedures for registration and contribution payments, and making benefits portable across jobs and forms of employment is recommended (ILO 2016; ILO 2017; OECD 2018a). Studies emphasize the importance of preventing misclassification of workers and providing both public and private pension coverage to self-employed workers (ILO 2016; Mercer, CFA Institute 2015; OECD 2018a).

Some recent reforms have focused on strengthening social protection coverage for those who were previously excluded or inadequately covered, such as part-time and temporary workers and the self-employed. Many EU and other OECD countries already employ strategies to provide social protection to non-standard workers, including the self-employed (European Commission 2017; ILO 2016; OECD 2018a).

Additionally, while it is reasonable to maintain the contributory nature of pension systems, further recommendations proposed by international organizations and experts underline that tax financed, public non-contributory pension programs (including means tested) may close the gaps in pension coverage for non-standard workers by guaranteeing a basic level of

---

specifically for workers in the informal economy. Particular interest is paid to the expansion of tax-financed schemes (specifically, old-age pensions) that helped to extend coverage to some workers in informal employment and lift them out of extreme poverty. Such public investments took already place in more than 30 countries including Bolivia, Georgia, Lesotho, Namibia, Nepal, Mauritius, Thailand, etc. (Kidd 2017; UN 2018). However there are still a lot of challenges related to all of the above mentioned efforts, including institutional and structural ones that prevent developing of social protection systems in less developed countries, as well as sustainability and adequacy of social protection systems (ILO 2017). The United Nations (2018) highlights that overall coverage of workers in the informal employment is limited, and social insurance schemes remain beyond the reach of most of them. Where tax-based schemes reach some of the workers (usually those living in extreme poverty), their impact is limited by low transfer values.

retirement income security in situations where benefits are adequate and are politically sustainable (ILO 2016; OECD 2018a)<sup>31</sup>.

Furthermore, key policy recommendations suggest that making pension systems mandatory is essential<sup>32</sup>. In contrast, evidence suggests that current voluntary pension schemes cannot be effective for non-standard workers: they are not in active use by workers in developed Europe or in the U.S. (Gale et al. 2016; OECD 2018a)<sup>33</sup>. Innovative and digital voluntary individual- and group-based solutions have been discussed recently to address the challenges facing non-standard workers<sup>34</sup>.

It is worth mentioning that policy debates on social protections for non-standard workers are on-going in many advanced and developing countries<sup>35</sup> and interest in them is gaining momentum.

In focusing on the U.S., experts highlight that informal and non-standard employment still tends to be overlooked in policy circles. Smith Nightingale and Wandner (2011) underline that the informal and non-standard work has implications for numerous policy options related to workers and their families, and to U.S. businesses. The authors focus on the importance of enhancing tax and worker security policy incentives (such as occupational skill training, child-care support for working parents, and immigrant workers' support) that can significantly facilitate participation in and shift to formal and standard employment.

Recent studies emphasize specific challenges related to employer-provided social protection systems and of non-standard workers in the U.S., and they find solutions to address weak connections between employers and non-standard employees. For instance, Munnell et al. (2018) suggest that compulsory pension and retirement coverage for non-standard workers and self-employed persons can close the gap in the U.S. social protection system. Additionally, improving portability, decoupling retirement savings and pension plans from employers, and

---

<sup>31</sup> Such systems exist in Canada and Sweden among developed countries, and Bolivia, Mauritius, Nepal, etc. among developing ones. Other countries employ universal non-contributory pension coverage: Netherlands, New Zealand, Norway, Georgia (World Bank 2019).

<sup>32</sup> For instance, Barr (2018) discusses a theoretical rationale for making social protection systems mandatory.

<sup>33</sup> For instance, Gale et al. (2016) suggest that only a very small percentage of contingent workers regularly contribute to voluntary pensions (IRAs) in the U.S. In general, less than 14 percent of all individuals contribute to IRAs, and fewer than 10 percent make the consistent contributions necessary to build retirement security.

<sup>34</sup> Solutions such as consumption based contributions (Barr 2018), micro pensions (Netspar 2015), and others have been proposed to facilitate pension savings for lower income workers in general.

<sup>35</sup> Reforms and policy changes are currently discussed in many European Union member countries as well as in Asia (European commission 2017; ILO 2016).

encouraging innovative and Internet-based solutions are suggested to address the needs and circumstances of non-standard American workers (Gale et al. 2016; Munnell et al. 2018).

Besides the problems specific to non-standard workers, there are more comprehensive concerns regarding the importance of achieving retirement security for all Americans. Currently, more than half of U.S. employees are not enrolled in employer-provided retirement savings or pension plans (GAO 2015), and, not surprisingly, non-participants are more likely to be lower-income or non-standard workers. Wu and Rutledge (2014) suggest that the most prominent and ambitious solution would be to require all employers to offer pensions to their workers. Relevant policy options can include providing all employees with access to retirement plans and automatically enrolling them. Such policy options can potentially benefit traditional and non-standard workers since the problem of pension coverage has become more compelling due to the reduction in the number of employer-provided pension schemes in the U.S. and a demographic shifts<sup>36</sup>. However, Wu and Rutledge (2014) underline that providing universal pension coverage in the workplace would still leave a large fraction of lower income individuals without coverage due to their low employment rates.

Box 1 summarizes main parametric and systematic policy recommendations discussed in the literature reviewed in the current section of the working paper.

---

<sup>36</sup> Munnell et al. (2016) found that the overall participation in employer-provided pension plans is lower due to the decline in Defined Benefit plans participation, and highlights that employer-sponsored plans provide less today than in the past, and future retirees will be more dependent on Social Security than in the past.



## Box 1. *Enhancing Retirement Security through Social Protection Policy for Non-standard*

### **Summary of comprehensive policy directions:**

- Make pension systems mandatory or consider the level of compulsion, and reduce possibilities for exemptions.
- Make social protection more universal.
- Complement social insurance programs with non-contributory programs that can provide a basic level of coverage for all.
- Develop innovative, Internet- and digital-based pension and retirement solutions: work related and voluntary, individual and group based.
- Improve application of social protection laws and regulations in practice.
- Reinforce counselling as well as information and advice services to inform the workers about their social protection rights.

### **Specific parametric policy options:**

- Eliminate or lower thresholds regarding working hours, earnings or the minimum duration of employment.
- Allow more flexibility and harmonization with regard to the contributions required to qualify for benefits and interruptions in contribution periods.
- Enhance portability of entitlements among different schemes and employment statuses.
- Simplify administrative procedures for registration and contribution payments.

### **Policy options relevant for self-employed:**

- Avoid exclusion of self-employed from private and public pension programs.
- Prevent misclassification of workers aimed at avoiding social protection coverage and ensure adequate pension and retirement savings coverage.
- Monitor taxation of self-employment jobs including in the digital economy.
- Consider measures to fight against under-declaration of income and tax avoidance in order to improve the financing of social protection benefit schemes and provide adequate benefits to workers.
- Enhance legal and regulatory framework for digital economy.

## **Concluding Remarks**

From a social protection policy perspective, the most significant issues that result from informal and non-standard employment arrangements include a lack of income security and limited access or no access at all to pension coverage for workers in informal and non-standard employment both in developing and developed worlds.

In a broader sense, poverty and vulnerability are important consequences of informal and non-standard employment. Studies suggest that among non-standard workers worldwide, the

most vulnerable are temporary and part-time workers, since they often lack access to employer-provided and/or public retirement and pension coverage, or their benefits are often low or inadequate. Adapting social protection policy for self-employed individuals, including those working through online platforms, needs special attention as well. Most importantly, workers with both informal and non-standard employment arrangements are significantly dependent on state social insurance and non-contributory assistance. This is relevant to most developed and developing EU member countries. At the same time, a problem that arises in the EU includes tradeoffs between providing state assistance to the most vulnerable workers and an increase in government spending (EC 2017).

Evidence and hypothetical findings suggest that the retirement well-being of U.S. non-standard workers, particularly temporary, temporary agency, on-call, and gig-economy workers, as well as self-employed, is substantially dependent on the U.S. government's Social Security program. In general, the importance of state social insurance benefits is increasing in the U.S., and undoubtedly more workers, including traditional ones, will be dependent on Social Security in the decades ahead due to the current trend of reductions in employer-provided pensions and aging (Munnell et al. 2016).

It is worth mentioning that in the EU and the U.S., an increase in non-standard work may increase the demand for state assistance programs. GAO (2015) highlights that if non-standard workers do not receive work-provided health or retirement benefits, or do not qualify for workers' compensation or unemployment insurance programs, costs formerly borne by employers and employees may be shifted to federal and state public assistance programs, such as Medicaid and others.

The discussion in the current paper points to the need for further research on retirement income security, particularly for the most vulnerable groups of the U.S. non-standard workers and the self-employed. As recommended in the literature review, there is a need to address challenges associated with an expansion and improvement in the access to employer-provided, as well as voluntary, pension and retirement coverage and the provision of adequate benefits for the workers. Innovative retirement and pension saving solutions, including digital approaches, should also be developed to complement existing public benefits.

Related areas need to be explored as well: misclassification of workers and non-reporting and underreporting of taxes, which also potentially affect the sustainability of public and private

social protection systems. Special attention should be paid to the regulatory frameworks that cover electronically mediated workers and their employers. Knowledge about lower income workers in general who tend to have informal and non-standard work arrangements and represent the most disadvantaged socio-economic groups should be shared with policymakers. Finally, research is needed around the world to assess the effects increases in informal and non-standard employment on social protections and to identify ways to adapt policies to those changes. Specifically, the causes, consequences, and policy implications of an increase in informal and non-standard employment in Eastern Europe and Central Asia should be analyzed. Transition economies with traditional payroll-based pension systems and sizable informal and non-standard employment need special attention. Other specific issues for further research may also include challenges related to social protection for women in informal and non-standard employment. In general, the share of workers covered by contributory pension systems is consistently lower for women, as are their benefit levels, and women tend to be at a disadvantaged in terms of their earnings and retirement income security across regions and countries. This is becoming particularly compelling as the world's labor force is aging, and inequality in pension coverage needs to be addressed.

## References

- Barr, Nicholas. 2012. *The Economics of the Welfare State*, 5th ed. New York: Oxford University Press, 254–57.
- Barr, Nicholas. 2018. “Shifting Tides. Dramatic Social Changes mean the Welfare State is More Necessary than Ever”. International Monetary Fund. *Finance and Development. Age of Insecurity. Rethinking the Social Contract*. December 2018, Volume 55, Number 4. Available at: <https://www.imf.org/external/pubs/ft/fandd/2018/12/pdf/fd1218.pdf>
- Barr, Nicholas and Peter Diamond. 2009. “Reforming Pensions: Principles, Analytical Errors and Policy Directions.” *International Social Security Review* 62 (2): 5–29.
- Bruckner Caroline and Thomas L. Hungerford. 2019. “Failure to Contribute: An Estimate of Consequences of Non- and Underpayment of Self-Employment Taxes by Independent Contractors and On-Demand Workers on Social Security.” Working Paper 2019-1. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Commander Simon, et al. 2013. “Informal Employment Dynamics in Ukraine: An Analytical Model of Informality in Transition Economies.” *International Labour Review*. Volume 152, Issue 3-4. Pages 445-467.
- European Commission. 2017. “Access to Social Protection for People Working on Non-standard Contracts and as Self-employed in Europe.” A study of national policies. By Spasova S., Bouget D., Ghailani, D. and Vanhercke B. European Social Policy Network (ESPN), Brussels: EC.
- European Commission. 2016. “Non-standard Employment and Access to Social Security Benefits.” By Matsaganis, M.; Özdemir, E.; Ward, T.; Zvakou, A. Research note 8/2015. Brussels, EC.
- Gale, William G., Sarah E. Holmes, and David C. John. 2016. “Retirement Plans for Contingent Workers: Issues and Options.” Working Paper. Washington, DC: Brookings Institution. Available at: <https://www.brookings.edu/wp-content/uploads/2016/09/rsp923paper1-1.pdf>
- Graham M, Hjorth I, Lehdonvirta V. 2017. “Digital Labour and Development: Impacts of Global Digital Labour Platforms and the Gig Economy on Worker Livelihoods.” Transfer: Brussels, Belgium. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5518998/>
- Fox, Justin. 2014. “Where Are All the Self-Employed Workers?” *Harvard Business Review*, February 7. Available at: <https://hbr.org/2014/02/where-are-all-the-self-employed-workers>

- Holzmann, Robert, David A. Robalino, and Noriyuki Takayama. 2009. *Closing the Coverage Gap: The Role of Social Pensions and Other Retirement Income Transfers*. Washington, DC: The World Bank.
- ILO & WIEGO. 2012. “Women in Informal Employment. Globalizing and Organizing. Policies and Programmes.” Available at: <http://www.wiego.org/publications/women-and-men-informal-economy-statistical-picture-2nd-edition>
- ILO & WIEGO. 2018. “Women in Informal Employment. Globalizing and Organizing. Policies and Programmes.” Available at: <http://www.wiego.org/informal-economy/policies-programmes>
- ILO. 2018a. “Digital Labor Platforms and a Future of Work. Towards Decent Work in the Online World.” Report. Geneva, Switzerland. Available at: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_645337.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf)
- ILO. 2018b. “Informality and Non-standard Forms of Employment.” Report. Buenos Aires, Argentina. Available at: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms\\_646040.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_646040.pdf)
- ILO. 2013. “Measuring Informality: A Statistical Manual on the Informal Sector and Informal Employment.” Report. Geneva, Switzerland. Available at: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_222979.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_222979.pdf)
- ILO. 2016. “Non-standard Employment Around the World: Understanding Challenges, Shaping the Prospects.” Geneva, Switzerland. Available at: [https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms\\_534326.pdf](https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_534326.pdf)
- ILO. 2018c. “Women and Men in the Informal Economy: a Statistical Picture.” Geneva, Switzerland. Available at: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms\\_626831.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf)
- ILO. 2017. World Social Protection Report. Universal Social Protection to Achieve Sustainable Development Goals 2017-2019.” Geneva. Available at: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_604882.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_604882.pdf)
- ILOSTAT. 2019. Share of Temporary Employees. Available at: <https://www.ilo.org/ilostat>

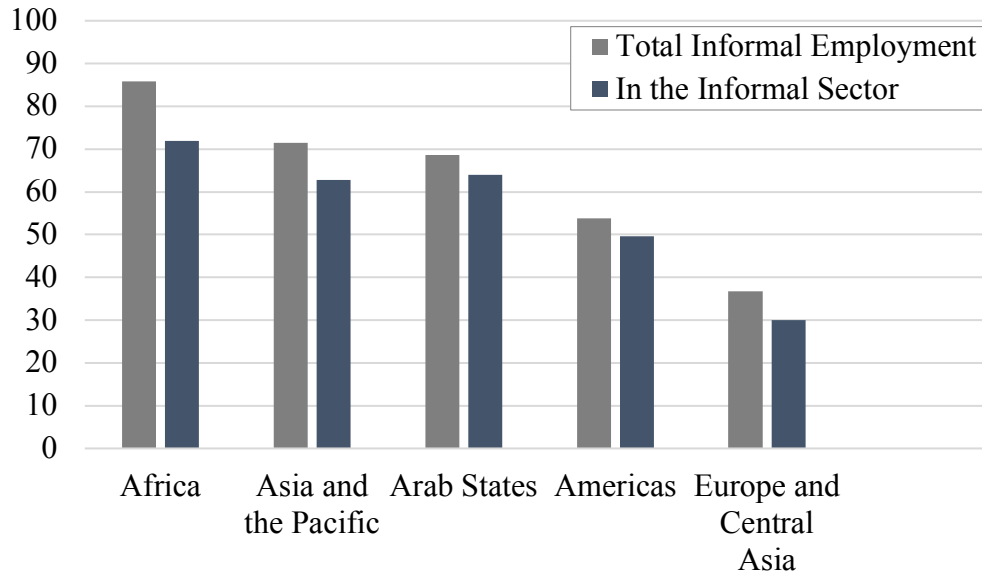
- Duval, Romain A. and Prakash Loungani. 2019. “Designing Labor Market Institutions in Emerging and Developing Economies: Evidence and Policy Options.” International Monetary Fund. Staff discussion note, May 2019. Available at: <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2019/05/15/Designing-Labor-Market-Institutions-in-Emerging-and-Developing-Economies-Evidence-and-Policy-46855>
- Katz, Lawrence F. and Alan B. Krueger. 2019. “Understanding Trends in Alternative Work Arrangements in the United States. Working Paper. Cambridge, MA: National Bureau of Economic Research. Available at: <https://www.nber.org/papers/w25425.pdf>
- Keen, Michael. 2015. “Why we need to rethink the informal economy.” World Economic Forum. Available at: <https://www.weforum.org/agenda/2015/06/why-we-need-to-rethink-the-informal-economy/>
- Kidd, Stephan. 2017. “Overview Report on Social Protection for Older People and Persons with Disability”. Prepared for the United Nations.
- Kidd, Stephan. 2019. “International Donors and an Exporting of 19<sup>th</sup> Century Poor Relief to Developing Countries.” From Poverty to Poor. 2019. Oxfam GB. Available at: <https://oxfamblogs.org/fp2p/international-donors-and-the-exporting-of-19th-century-poor-relief-to-developing-countries/>
- Mercer, CFA Institute. 2015. “An Ideal Retirement System”. Available at: <https://www.cfainstitute.org/-/media/documents/support/future-finance/an-ideal-retirement-system.ashx>
- Munnell, Alicia H., Anek Belbase, and Geoffrey T. Sanzenbacher . 2018. “An Analysis of Retirement Models to Improve Portability and Coverage.” Special report. Chestnut Hill, MA: Center for Retirement Research at Boston College. Available at: [https://crr.bc.edu/wp-content/uploads/2018/03/Portability-and-coverage\\_Special-report.pdf](https://crr.bc.edu/wp-content/uploads/2018/03/Portability-and-coverage_Special-report.pdf)
- Munnell, Alicia H., Rebecca Cannon Fraenkel, and Josh Hurwitz. 2012. “The Pension Coverage Problem in the Private Sector.” Issue in Brief 12-16. Chestnut Hill, MA: Center for Retirement Research at Boston College. Available at: [http://crr.bc.edu/wp-content/uploads/2012/09/IB\\_12-16-508.pdf](http://crr.bc.edu/wp-content/uploads/2012/09/IB_12-16-508.pdf)
- Munnell, Alicia H., Wenliang Hou, Anthony Webb, and Yinji Li. 2016. “Pension Participation, Wealth, and Income: 1992-2010.” Working Paper 2016-3. Chestnut Hill, MA: Center for Retirement Research at Boston College. Available at: [http://crr.bc.edu/wp-content/uploads/2016/07/wp\\_2016-3.pdf](http://crr.bc.edu/wp-content/uploads/2016/07/wp_2016-3.pdf)
- Netspar. 2015. “Micro Pension Schemes in Emerging Markets and their Relevance for Innovation. Is Micro pension the Disruptive Innovation that Developed Pension Systems (Eventually) Could Change?” Tias Netspar Academy Thesis 2015-005.

- OECD. 2018a. “The Future of Social Protection: What Works for Non-standard Workers?” OECD Publishing, Paris. Available at: <https://doi.org/10.1787/9789264306943-en>
- OECD. 2009. “Pension Coverage and Informal Sector Workers: International Experiences.” Publishing OECD, Paris. Available at: <https://www.oecd.org/finance/private-pensions/42052126.pdf>
- OECD. 2018b. “Pensions at a Glance. Asia and Pacific.” Publishing OECD, Paris. Available at: [https://read.oecd-ilibrary.org/finance-and-investment/pensions-at-a-glance-asia-pacific-2018\\_pension\\_asia-2018-en](https://read.oecd-ilibrary.org/finance-and-investment/pensions-at-a-glance-asia-pacific-2018_pension_asia-2018-en)
- Palacios, Robert and Charles Knox-Vydmanov. 2014. “The Growing Role of Social Pensions: History, Taxonomy and Key Performance Indicators.” *Public Administration and Development* 34(4): 251-264.
- Rutkowski, Michal. 2018. “Reimagining Social Protection.” International Monetary Fund. *Finance and Development. Age of Insecurity. Rethinking the Social Contract*. December 2018, Volume 55, Number 4. Available at: <https://www.imf.org/external/pubs/ft/fandd/2018/12/pdf/fd1218.pdf>
- Rutledge, et al. 2019. “How Does Contingent Work affect SSDI Benefits?” Working Paper 2019-4. Chestnut Hill, MA: Center for Retirement Research at Boston College. Available at: <https://crr.bc.edu/working-papers/how-does-contingent-work-affect-ssdi-benefits/>
- Smith Nightingale, Demetra and Stephen Wandner. 2011. “Informal and Nonstandard Employment in the United States. Implications for Low-Income Working Families.” Brief 20, August 2011. The Urban Institute. Available at: <https://www.urban.org/sites/default/files/publication/32791/412372-informal-and-nonstandard-employment-in-the-united-states.pdf>
- WIEGO. 2019. Six Myths about Informal Economy Statistics. By Joann Vanek. Available at: <http://www.wiego.org/blog/six-myths-about-informal-economy-statistics>
- World Bank. 2009. “Pension Systems for the Informal Sector in Asia.” Edited by Landis MacKellar. Available at: <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Pensions-DP/0903.pdf>
- World Bank. 2019. “World Development Report 2019. The Changing Nature of Work.” Washington, DC. Doi: 10.1596/978-1-4648-1328-3. Available at: [https://www.imf.org/external/pubs/ft/fandd/2018/12/world-bank-reimagining-social-protection-rutkowski.htm?utm\\_medium=email&utm\\_source=govdelivery](https://www.imf.org/external/pubs/ft/fandd/2018/12/world-bank-reimagining-social-protection-rutkowski.htm?utm_medium=email&utm_source=govdelivery)
- United Nations. 2018. “Promoting Inclusion through Social Protection. Report on World Social Situation 2018.” New York. Available at: <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2018/07/1-1.pdf>

- U.S. Department of Labor’s Bureau of Labor Statistics (BLS). 2018. “Contingent and Alternative Employment Arrangements” News Release. Available at: <https://www.bls.gov/news.release/pdf/conemp.pdf>
- U.S. Government Accountability Office (GAO). 2019. “Contingent Workforce: BLS is Reassessing Measurement of Nontraditional Workers.” Report GAO-19-273R. Available at: <https://www.gao.gov/assets/700/696643.pdf>
- U.S. Government Accountability Office (GAO). 2015. “Contingent Workforce: Size, Characteristics, Earnings, and Benefits.” Report GAO-15-168R. Washington, DC: Government Accountability Office. Available at: <https://www.gao.gov/products/GAO-15-168R>
- U.S. Government Accountability Office (GAO). 2009. “Employee Misclassification: Improved Coordination, Outreach, and Targeting Could Better Ensure Detection and Prevention.” Report. Available at: <https://www.gao.gov/assets/300/293679.pdf>
- Yanyuan, April, Matthew Rutledge. 2014. “Lower-Income Individuals Without pensions.” Working Paper 2014-2. Chestnut Hill, MA: Center for Retirement Research at Boston College. Available at: [https://crr.bc.edu/wp-content/uploads/2014/03/wp\\_2014-2.pdf](https://crr.bc.edu/wp-content/uploads/2014/03/wp_2014-2.pdf)

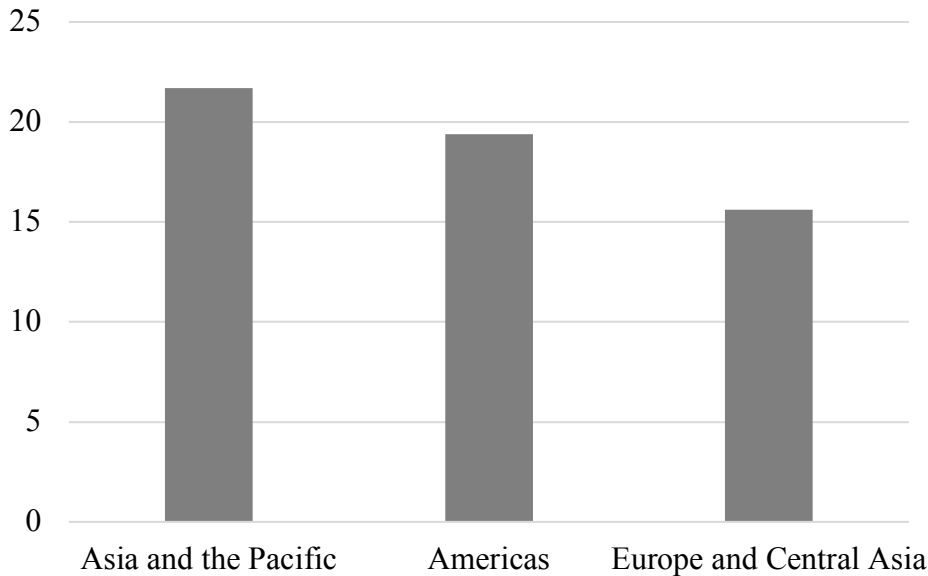


Figure 1. *Share of Informal Employment as a Percentage of Total Employment in Developing and Emerging Countries, by Regions (2016)*



Source: ILO.

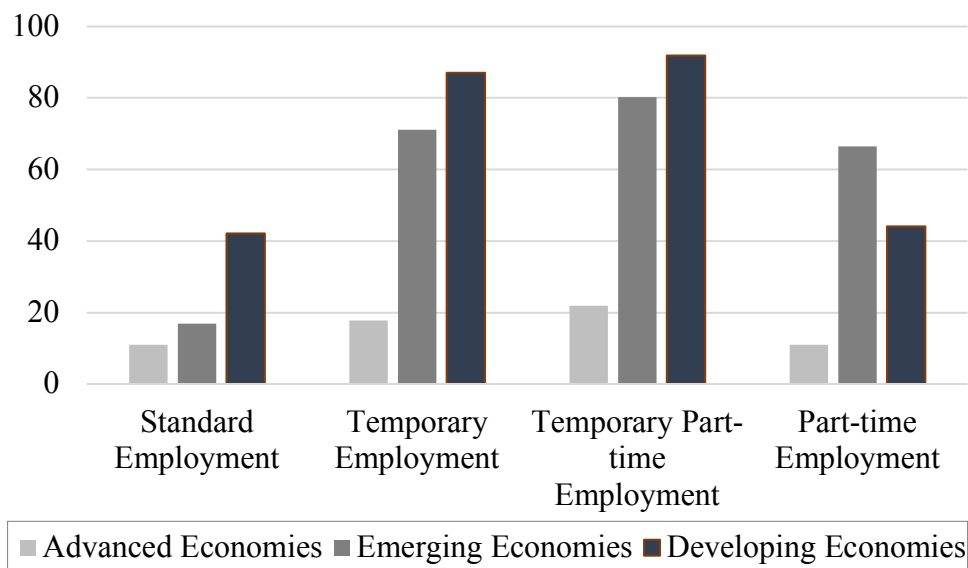
Figure 2. *Share of Informal Employment as a Percentage of Total Employment in Advanced Economies, by Regions (2016)*



Notes: Includes agricultural employment, informal employment within informal and formal sectors. There are challenges related to statistics on informal employment in advanced countries. National statistical agencies rarely measure informal employment within formal sectors for statistical and policy making purposes (ILO 2018c; WIEGO 2019).

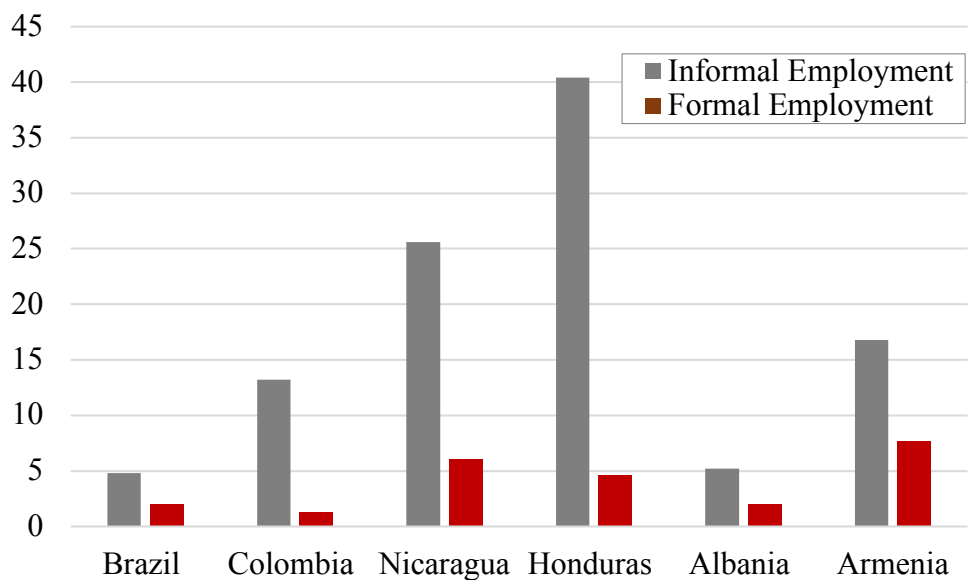
Source: ILO.

Figure 3. *Share of Informal Employment among Employees in Standard and Non-standard Employment in Developing, Emerging, and Developed Countries (percentages, latest available years)*



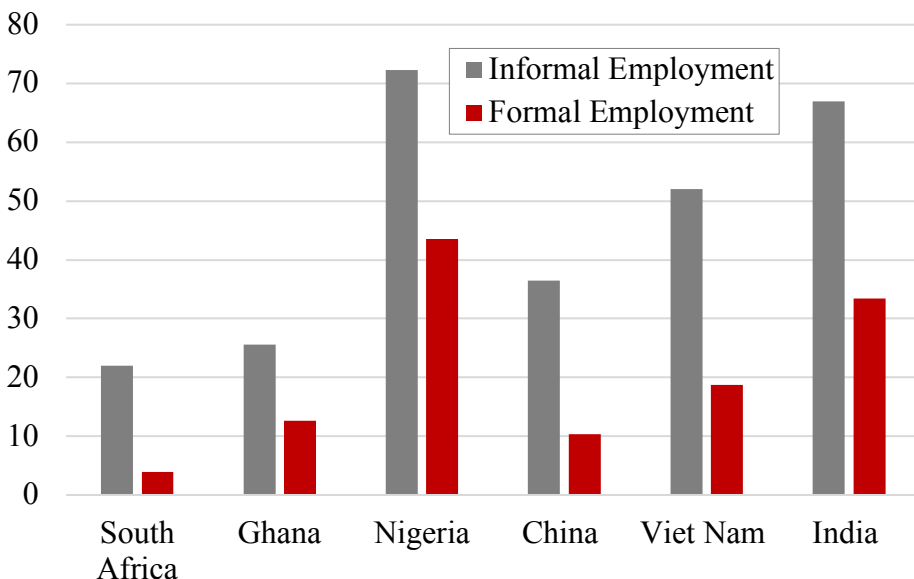
Sources: ILO (2018c); and ILO (2018b).

Figure 4. *North and South Americas, and Eastern Europe: Absolute Poverty Rates in Informal and in Formal Employment in Selected Developing and Emerging Countries (at US 3.10 \$ PPP per capita per day)*



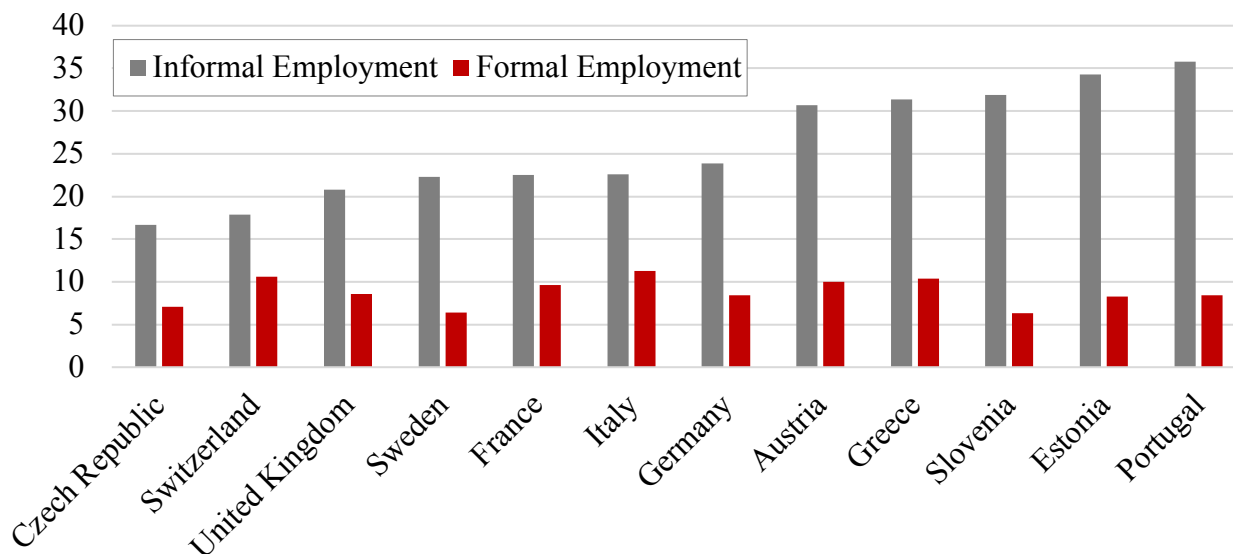
Note: This figure illustrates a magnitude of poverty rates in developing and emerging countries by regions.  
Source: ILO (2018c).

Figure 5. *Africa and Asia: Absolute Poverty Rates in Informal and in Formal Employment in Selected Developing and Emerging Countries (at US 3.10 \$ PPP per capita per day)*



Note: This figure illustrates a magnitude of poverty rates in developing and emerging countries by regions.  
 Source: ILO (2018c).

Figure 6. *Relative Poverty Rates in Informal and in Formal Employment in Selected Advanced European Economies (60% median value of household disposable income)*



Note: This figure illustrates a magnitude of poverty rates in developed Europe.  
 Source: ILO (2018c).

RECENT WORKING PAPERS FROM THE  
CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

**Will More Workers Have Nontraditional Jobs as Globalization and Automation Spread?**

*Matthew S. Rutledge, Gal Wettstein, and Sara Ellen King, July 2019*

**Do States Adjust Medicaid Enrollment in Response to Capitation Rates? Evidence from the Medicare Part D Clawback**

*Laura D. Quinby and Gal Wettstein, June 2019*

**The Effect of Medicare Part D on Evergreening, Generic Entry, and Drug Prices**

*Geoffrey T. Sanzenbacher and Gal Wettstein, May 2019*

**Is the Drop in Fertility Due to The Great Recession or a Permanent Change?**

*Alicia H. Munnell, Anqi Chen, and Geoffrey T. Sanzenbacher, March 2019*

**Will Fewer Children Boost Demand for Formal Caregiving?**

*Gal Wettstein and Alice Zulkarnain, March 2019*

**The Relationship Between Occupational Requirements and SSDI Activity**

*Matthew S. Rutledge, Alice Zulkarnain, and Sara Ellen King, February 2019*

**How Does Contingent Work Affect SSDI Benefits?**

*Matthew S. Rutledge, Alice Zulkarnain, and Sara Ellen King, February 2019*

**Do Pension Cuts for Current Employees Increase Separation?**

*Laura D. Quinby and Gal Wettstein, January 2019*

**Competition, Asymmetric Information, and the Annuity Puzzle: Evidence from a Government-Run Exchange in Chile**

*Gastón Illanes and Manisha Padi, January 2019*

**Failure to Contribute: An Estimate of the Consequences of Non- and Underpayment of Self-Employment Taxes by Independent Contractors and On-Demand Workers on Social Security**

*Caroline Bruckner and Thomas L. Hungerford, January 2019*

**How Much Income Do Retirees Actually Have? Evaluating the Evidence from Five National Datasets**

*Anqi Chen, Alicia H. Munnell, and Geoffrey T. Sanzenbacher, November 2018*

*All working papers are available on the Center for Retirement Research website (<https://crr.bc.edu>) and can be requested by e-mail ([crr@bc.edu](mailto:crr@bc.edu)) or phone (617-552-1762).*