Chapter 12

Job Displacement Insurance in Developing Countries

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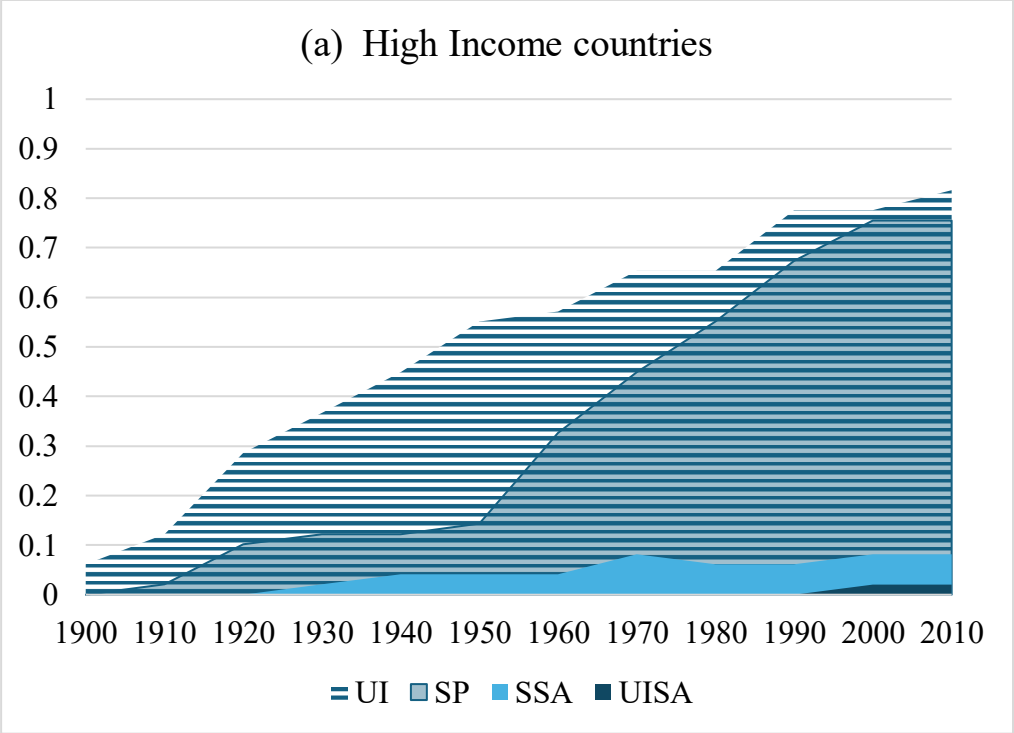
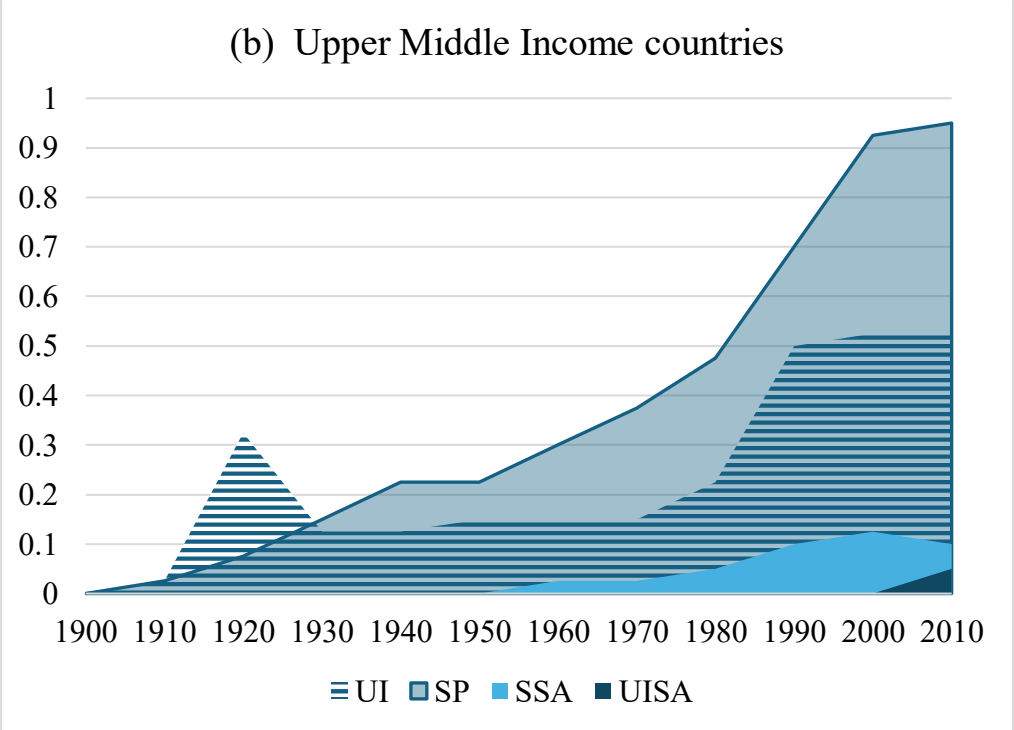
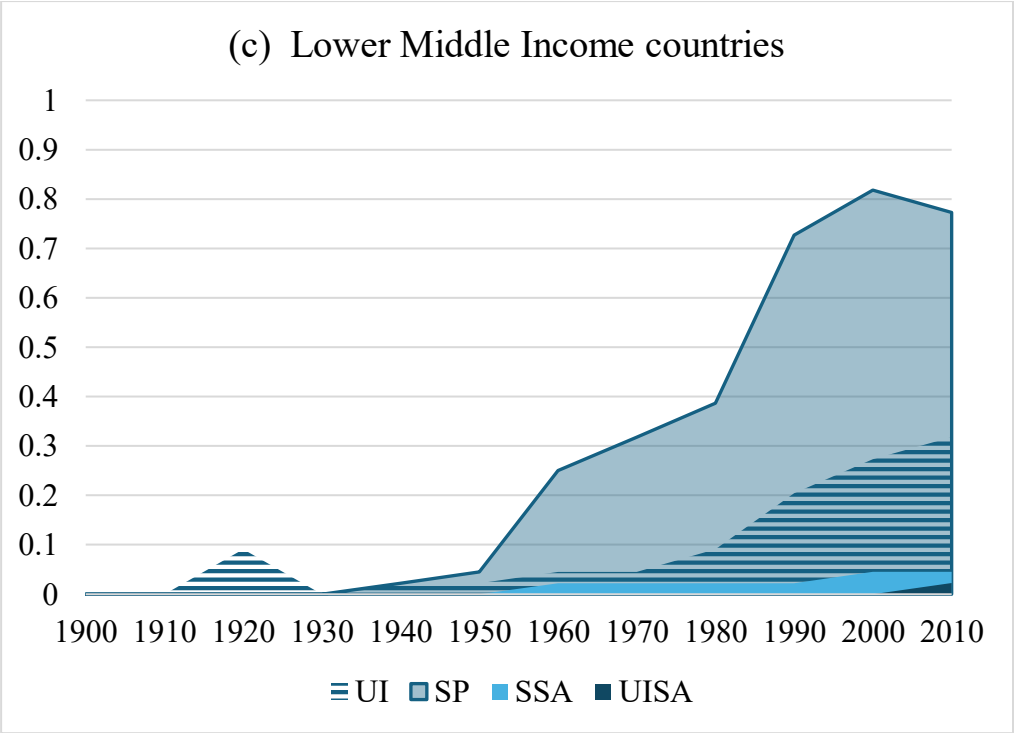
Most of the world population lives in developing countries, where the risk of job loss is substantial (Donovan et al. 2023), and the proportion of social insurance spending relative to GDP is lower than in high-income countries (Chetty and Finkelstein 2013). However, policies aimed at protecting workers from job displacement are gaining traction and are becoming an important component of social protection in the developing world.

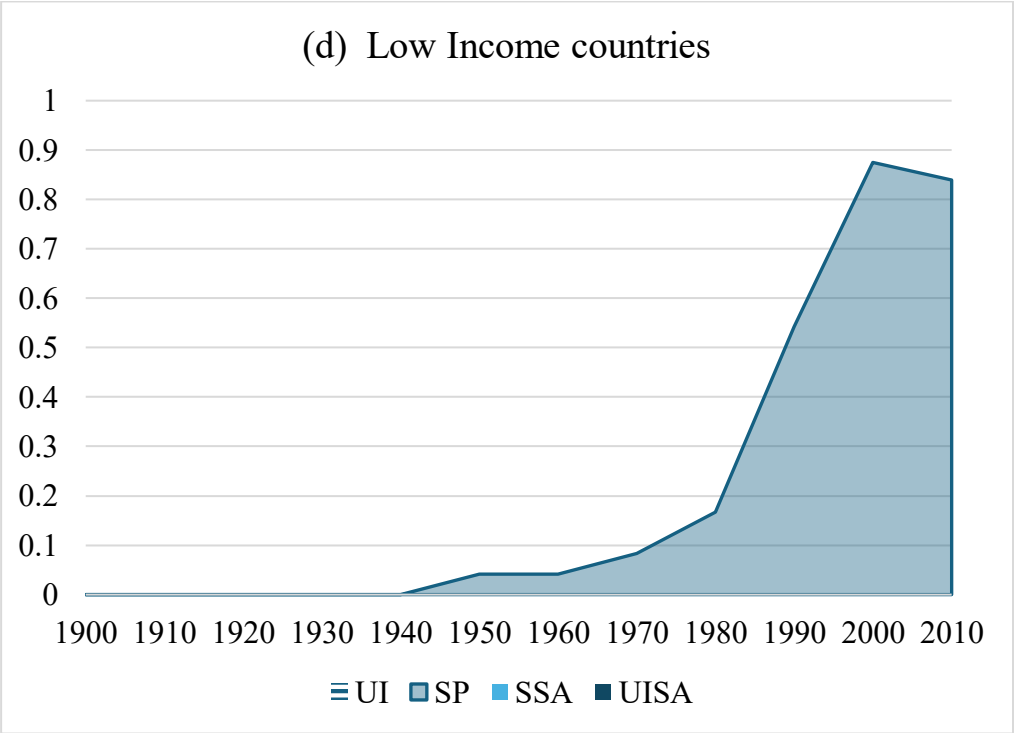
This chapter focuses on Job displacement Insurance (JDI) policies in developing countries. JDI consists in a set of government programs aimed at offering financial assistance to workers after job loss. This assistance may be provided directly by governments or mandated through a third party, often employers. We can classify these policies into 4 categories based on their benefit payout schemes – lump-sum vs. state-contingent – and their financing schemes – insurance-based vs. savings-based (Parsons 2016). Following this typology, Figure 1 shows that insurance-based policies have become widespread over the last century. Unemployment insurance (UI) – where benefits are paid overtime contingent on workers remaining unemployed – and government-mandated severance pay (SP) – which is a lump-sum disbursed at layoff – exist in many countries today. By contrast, savings-based JDI policies – where benefits are paid out of workers' mandatory savings accounts – remain rare.

Figure 1: Job Displacement Insurance Across Countries









Notes: Data for 163 countries on the share of countries with government-mandated JDI programs by decade (see Gerard et al. 2024 for details) and country income group (World Bank classification). The programs are categorized based on their *benefit payout schemes* -- lump-sum vs. state-contingent -- and *financing schemes* -- insurance-based vs. savings-based: Unemployment Insurance (UI; state-contingent,

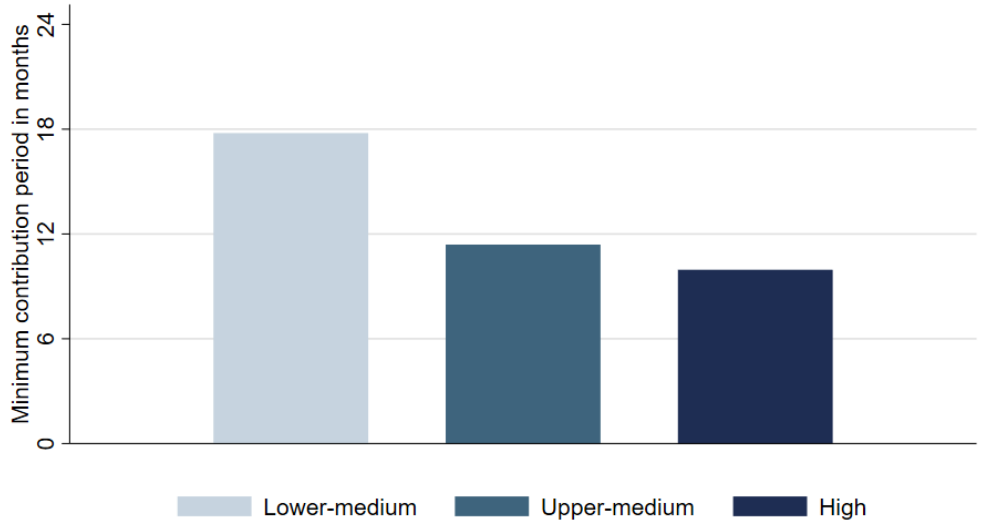
insurance), Severance Pay (SP; lump-sum, insurance), Unemployment Insurance Savings Account (UISA; state-contingent, forced savings), Severance Savings Account (SSA; lump-sum, forced savings).

A crucial difference for JDI policies between lower-income and higher-income countries lies in the composition of their labor markets. To be eligible for JDI benefits, workers must provide proof that they have lost a job. Thus, JDI policies usually cover workers with formal wage employment contracts only. It is well-known that developing countries have large informal labor markets (Ulyssea 2020). Therefore, a large share of workers at risk of job loss are not covered by JDI policies. Figure 1 shows that the type of JDI policies available to formal workers in developing countries also differs. The share of countries with UI programs is nil in low-income countries and it is strongly increasing in income per capita. By contrast, most governments around the world have adopted mandated SP policies.

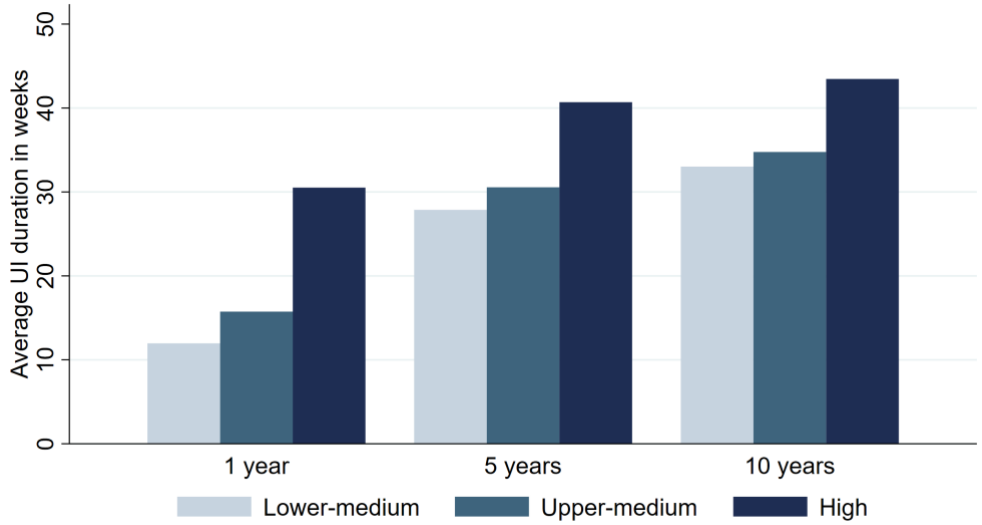
Systematic differences between higher- and lower-income countries are not restricted to the type of policies in place. Figure 2 shows that formal workers' eligibility for UI benefits is more limited in developing countries with UI programs. The number of months of contributions that workers must accumulate to become eligible is higher (panel A). Once eligible, workers with the same contribution period also have a lower potential UI duration (panel B), although UI benefits replace a similar share of lost wages in higher- and lower-income countries on average (panel C). By contrast, SP is more generous: workers with similar job tenure receive higher SP amounts in developing countries.

Figure 2: Eligibility and Generosity of UI and SP across countries today

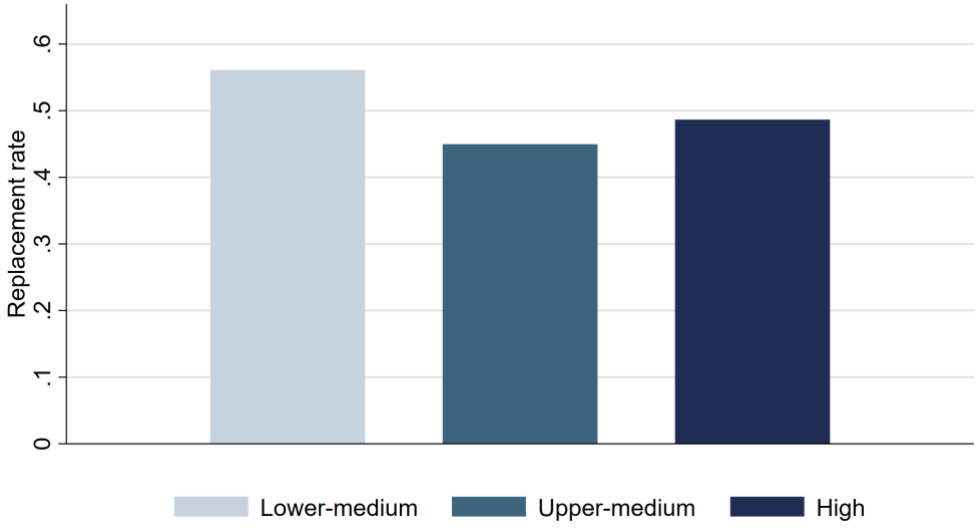
(a) Average minimum contribution period



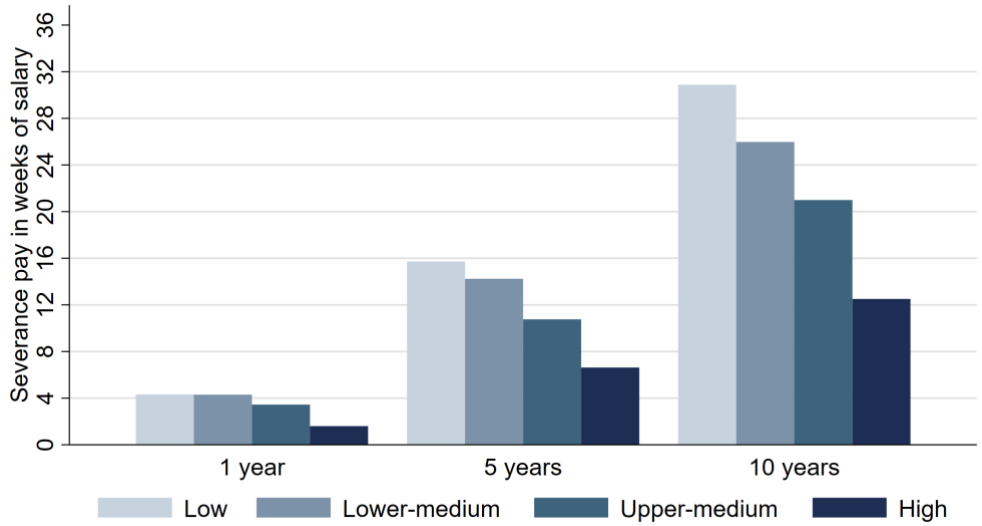
(b) Average UI Duration



(c) Average UI replacement rate



(d) Average SP lump-sum

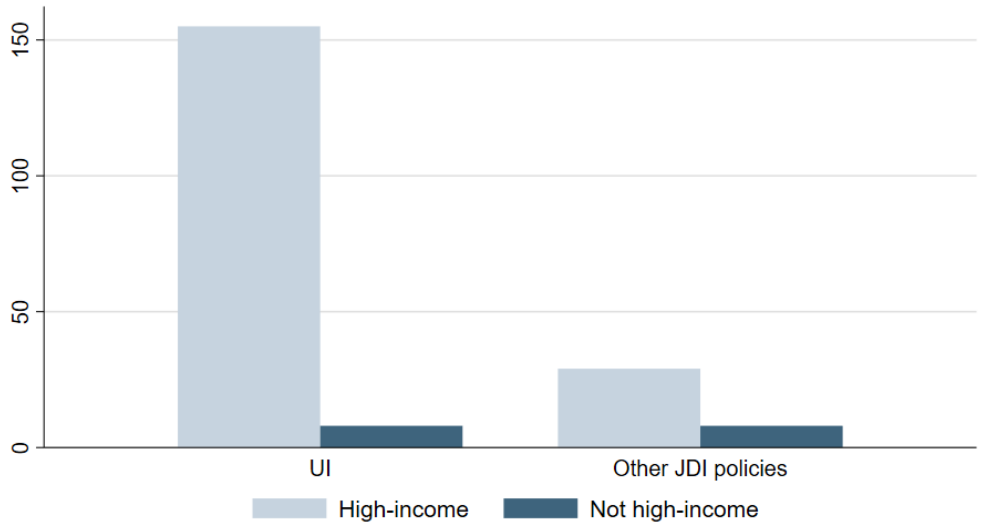


Notes: Data for 163 countries on eligibility and generosity of UI and SP policies as of 2019 (see Gerard et al. 2024 for details). The figure displays: the average minimum contribution period to be eligible for UI benefits (panel a); the average UI duration for 5 years of contribution (panel b); the average replacement rate for a worker earning twice the minimum wage, who is single and without children, and has 5 years of tenure at layoff (panel c); the average severance pay amount by tenure at layoff (panel d).

An extensive literature on JDI has been published in top economics journals in the past two decades. However, Figure 3 shows that these papers overwhelmingly focus on UI in high-income countries. By the same metric, the

literature on UI in developing countries and the literature on other JDI policies that are more relevant for developing countries are rather scant. Nevertheless, this chapter shows that a small but growing body of work has started to shed light on the need for and the design of JDI policies in developing countries. Much of this evidence uses data from Brazil, which allows us to discuss various aspects of JDI policies while holding constant the institutional context. We also discuss evidence from other settings whenever it is available and highlight important evidence gaps for future research.

Figure 3: Number of papers published on JDI in top economics journals



Notes: This figure shows the number of papers published on UI vs other JDI policies in top economics journals since 2000. Top journals include: 'top 5', top general-interest, and top field journals (see Gerard et al. 2024 for details).

1. Why Job Displacement Insurance?

JDI policies are designed to serve an insurance purpose by helping workers cope with the economic consequences of job loss. Additionally, they can play a

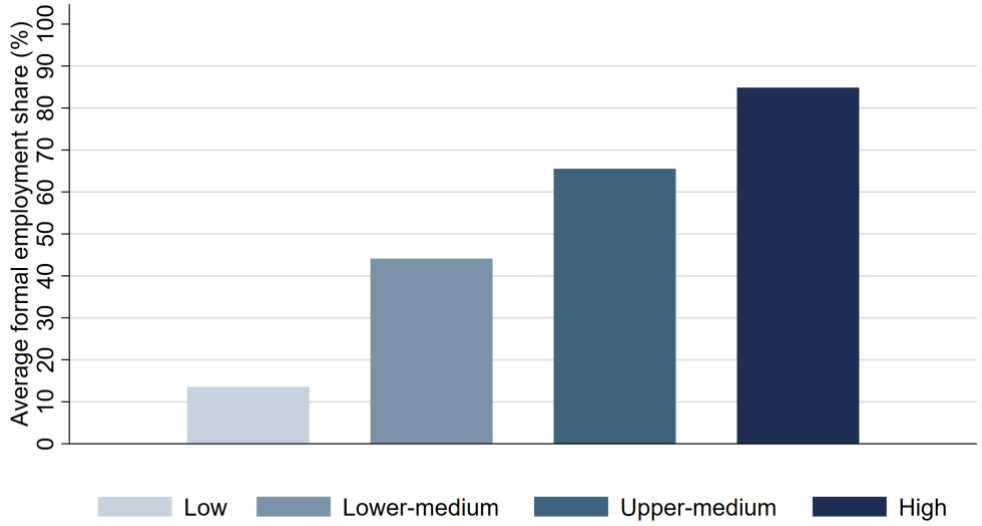
redistributive role by targeting resources towards workers with low earnings ability if these workers are exposed to greater risks of job loss and prolonged unemployment (Ferey 2022). The strength of these two policy motives, however, can differ across levels of development.

1.1 Redistributive motive

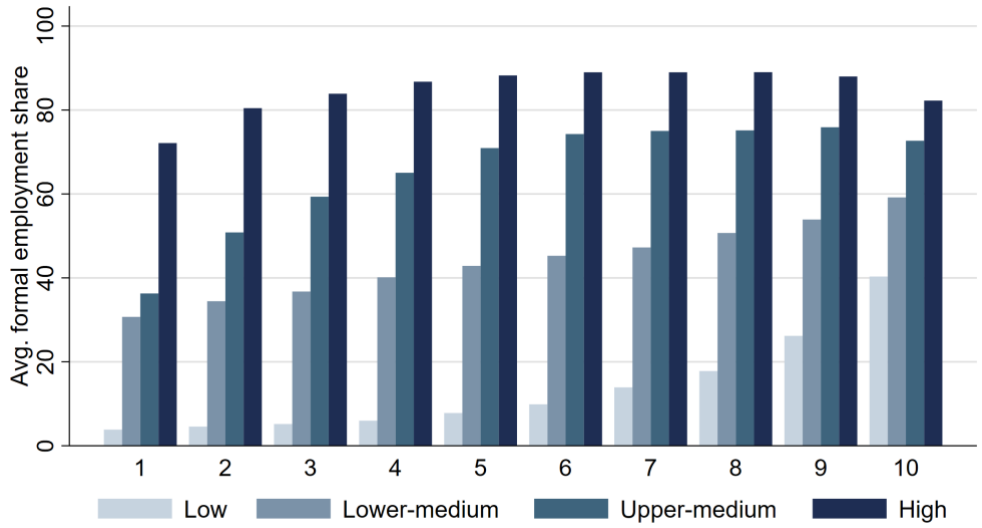
The redistributive motive is arguably weaker in developing countries due to the structure of their labor markets. Overall, the share of workers in formal wage employment is lower in lower-income countries. Figure 4 also shows that the gap in formal employment rates between workers at the top and bottom of the income distribution is much larger. The gap is particularly stark in low-income countries, but formal employment shares remain twice as high for workers in the top vs. bottom income deciles in upper-middle-income countries. Consequently, workers with lower earnings ability will be less likely to be covered by JDI in developing countries than in high-income countries. The ability of JDI policies to target resources towards the bottom of the income distribution will thus be weaker, particularly compared to other policies such as cash transfers.

Figure 4: Formal employment rates and coverage of JDI policies

(a) Formal employment share



(b) Formal employment share by income decile



Note: The figure displays the average share of employment that is formal by country group (panel a), and the average share of employment that is formal by deciles of the income distribution within a country group (panel b). Data from Jensen (2022).

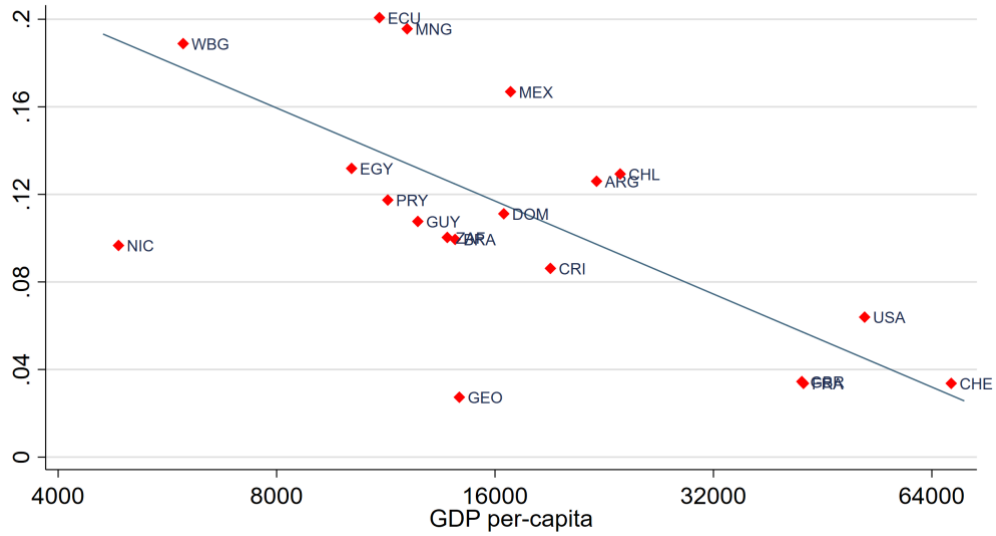
1.2 Insurance motive

By contrast, the insurance motive could be strong in developing countries if formal workers are exposed to a high risk of job loss, and the loss of a formal job represents a significant shock.

The available data suggests that formal workers are exposed to a high risk of job loss in developing countries. Figure 5a uses data from Donovan et al. (2023) who harmonize longitudinal labor force surveys across countries. It suggests that there is a negative correlation between GDP per capita and job separation rates for formal workers, as measured by the share of workers leaving formal wage employment between two consecutive quarters.[1]

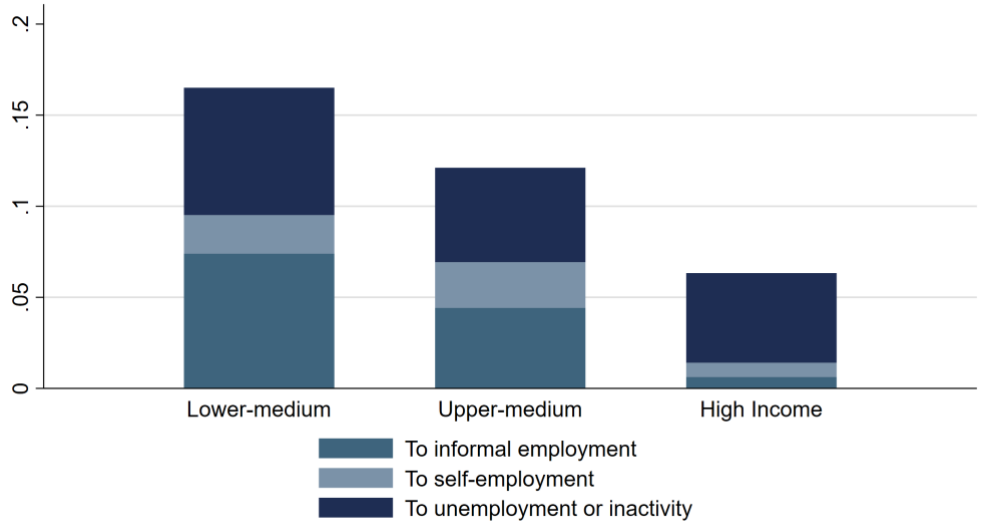
Figure 5: Flows out of formal employment and destination

(a) Quarterly flows out of formal employment



[1] We use the same set of countries and the same definition of formal employment as in Figure II in Donovan et al. (2023). Their data do not include low-income countries because of the limited availability of longitudinal surveys.

(b) Destination of flows out of formal employment



Note: The figure displays quarterly flows out of formal job by GDP per capita (panel a) and the destination of these flows by country income group (panel b). Data from Donovan et al. (2023).

An extensive literature shows that losing a formal job is a significant shock in high-income countries. Ganong and Noel (2019) document that displaced formal workers in the U.S. experience a sharp drop in consumption after job loss. While many find new formal jobs quickly and regain some lost income, those remaining without a formal job face persistently lower consumption levels, particularly after they exhaust their potential UI duration.

It is a priori ambiguous whether displaced formal workers in developing countries would experience similar consumption drops as those in high-income countries. They might offset the impacts of job loss by working informally, a form of self-insurance less available in richer countries. However, they might be slower at finding new formal employment where informality rates are higher. Additionally, informal work might provide imperfect self-insurance if these jobs

are scarce and earnings levels are low, and other forms of self-insurance, such as access to formal credit, might be more limited.

To study this question, Gerard and Naritomi (2021) combined administrative data on formal employment and high-frequency consumption spending data for a sample of Brazilian workers. They document a sharp drop in consumption at job loss for workers not eligible for any JDI benefits. Consumption also drops sharply when workers eligible for UI exhaust their benefits and it remains depressed for workers who fail to find a formal job quickly. Thus, displaced formal workers do not seem better able to smooth consumption through self-insurance following negative income shocks in Brazil than in richer countries.

Other work in the Brazilian context helps make sense of these findings. First, Gerard and Gonzaga (2021) show that displaced formal workers take much longer to find a formal job in Brazil than in higher-income countries, and in locations with higher informality within Brazil. Losing a formal job thus implies a more persistent change in employment status where formal jobs are scarcer. Second, many displaced formal workers are unable or unwilling to engage in informal work activities. Gerard and Gonzaga (2021) estimate that a large share of displaced formal workers in Brazil are working informally while remaining without a formal job, but that many workers also remain unemployed. Figure 5b shows similar evidence for lower- and upper-middle- income countries using the data from Donovan et al. (2023). While a large share of workers leaving formal employment transition to self-employment and informal wage

employment, many remain unemployed. Third, even formal workers who transition to informal work tend to experience large negative changes in earnings in Brazil (Engbom et al. 2022). Informal work, therefore, is an imperfect means of self-insurance for displaced formal workers.

Recent papers also document adverse impacts of job displacement in Brazil, beyond lost income and consumption. This is relevant because a sizable drop in income or consumption must not imply a high value of insurance if the utility cost of fluctuations in income or consumption is low. Displaced formal workers are more likely to commit crime (Britto et al. 2022a), including domestic violence (Bhalotra et al. 2021). They also experience increases in hospital admission and mortality (Amorim et al. 2023), and their children experience worse educational outcomes (Britto et al. 2022b). Importantly, these papers show that UI mitigates some of the adverse effects of job loss.

The conclusion emerging from the Brazilian context – that the insurance motive for JDI policies could be strong – likely applies to other developing countries. Liepmann and Pignatti (2024) exploit a unique combination of administrative and survey data from Mauritius and show that displaced formal workers experience an even larger drop in consumption spending after job loss. They take longer to find a formal job; a large share of those who remain without a formal job are non-employed; and those who transition to self-employment or informal wage employment earn much less than before job loss.

A limitation of the existing evidence is that it comes from a few middle-income countries. In a field experiment, Abebe et al. (2024) finds that displaced formal workers in Ethiopia also experience a persistent change in employment status but resort to very different means of consumption-smoothing. Informal transfers from their kin network help replace a sizable portion of their earnings such that they experience smaller drops in consumption after job loss. The insurance motive for JDI policies could still be strong if informal risk sharing arrangements involve significant utility costs. As highlighted by Chetty and Looney (2007) the value of insurance (and the welfare gains from the introduction of social insurance policies) could be high even when job loss generates small fluctuations in consumption if workers are highly risk averse and resort to costly means of consumption smoothing. The findings in Abebe et al. (2024) could also be specific to their study sample (young women who migrated to the city for their first formal factory job). However, it highlights that more evidence is needed, particularly for lower-income countries.

2. Incentive-insurance trade-off

The insurance motive offers a rationale for governments to provide JDI to formal workers in developing countries. The optimal amount of insurance and the specific design of JDI policies, however, will hinge not only on their insurance value but also on the potential distortions that these policies can introduce (i.e., moral hazard).

2.1 Baily-Chetty framework

The seminal paper by Baily (1978) posits this policy question as a trade-off between the efficiency costs from delaying workers' reemployment and the consumption-smoothing gains from protecting workers against the twin risks of job displacement and prolonged unemployment. It also contrasts UI and SP schemes focusing on their different "contingency policy," i.e., that only UI benefits are contingent on workers remaining unemployed. For that reason, UI provides better insurance than SP but leads to higher efficiency costs. SP provides the same support to workers "who are lucky enough to find new jobs quickly" and to those "who are unlucky in their search," while UI better targets the second group. SP creates an income effect so that workers "are less pressed financially to accept whatever jobs are available," while UI also creates a substitution effect because "prolonging the spell of unemployment (...) results in more benefits received" (Baily 1978, 399-400).

An extensive literature followed the generalization of Baily's framework by Chetty (2006). It clarified that the key source of inefficiency from delaying workers' reemployment comes from the additional costs to the government that workers do not internalize when making their own decisions, i.e., fiscal externalities. Workers will collect more UI benefits and will likely pay less taxes in the future if they stay longer without a job. Gerard and Gonzaga (2021) also clarified how to apply the Baily-Chetty framework to a context with high informality. The insurance value stems from protecting workers against the risk

of formal job loss and the risk of remaining without a formal job. Only formal workers are covered by JDI and the government cannot distinguish between workers who remain non-employed and those who work informally. The efficiency costs arise only from delaying workers' formal reemployment. Both displaced workers who remain non-employed and those who work informally can keep collecting UI benefits (while eligible) and pay no taxes. More generally, the condition for the optimal amount of insurance with any JDI policy can be written in the following form:

$$\frac{\mathbf{E}\left[\mathbf{u}'(\boldsymbol{c_{ben}})\right] - \mathbf{E}\left[\mathbf{u}'(\boldsymbol{c_{tax}})\right]}{\mathbf{E}\left[\mathbf{u}'(\boldsymbol{c_{tax}})\right]} = \boldsymbol{FE} \qquad (1)$$

The right-hand side captures the efficiency costs from the fiscal externalities (FE) induced by an increase in the transfer amount. It is defined as the ratio between a behavioral cost and a mechanical cost: $\boldsymbol{FE} = \frac{\mathbf{BC}}{\mathbf{MC}}$. The former includes all the costs to the government due to behavioral responses to that increase (e.g., delaying formal reemployment). The latter is the cost that arises because some beneficiaries would draw the increased amount absent any behavioral responses, i.e., "mechanically". The ratio measures the additional cost due to behavioral responses per $1 spent on mechanical beneficiaries. The left-hand side of equation (1) captures the insurance value, where $\mathbf{E}\left[\mathbf{u}'(\boldsymbol{c_{ben}})\right]$ and $\mathbf{E}\left[\mathbf{u}'(\boldsymbol{c_{tax}})\right]$ stand for the average marginal utility among those targeted by the increase in the transfer amount (i.e., mechanical beneficiaries) and among those

paying for it, respectively. At an optimum, efficiency costs and consumption-smoothing gains must be equal. Relatedly, introducing a JDI policy or increasing the amount of insurance will increase social efficiency if the insurance value exceeds the efficiency costs.

Considering this framework, we review the existing evidence on behavioral responses to JDI policies in developing countries and their associated efficiency costs. We then discuss evidence on their insurance value.

2.2 Behavioral responses and efficiency costs

Unemployment Insurance – A common view in policy debates is that the standard moral hazard problem with UI programs discussed above would be worse with high informality. The argument is loosely based on the fact that workers could work informally and still draw UI benefits, which is an additional dimension of behavioral response that is less relevant in high-income countries.

There is evidence of moral hazard with UI programs in developing countries. For instance, Gerard and Gonzaga (2021) and Liepmann and Pignatti (2024) show that workers delay formal reemployment in response to an increase in the potential UI duration in Brazil and in the UI benefit level in Mauritius, respectively. Moreover, the evidence suggests that part of the effect comes from workers choosing to work informally. Britto (2022) estimates that 57% of the delay in formal reemployment in Brazil comes from an increase in informal work.

This evidence, however, must not imply that the overall problem is worse in more informal labor markets. To show this, Gerard and Gonzaga (2021) use the above framework and compute the fiscal externalities from an increase in potential UI duration. The estimated efficiency costs are lower than comparable estimates for the U.S., even though informal work accounts for almost 40% of the labor force in Brazil. Furthermore, the efficiency costs are lower in locations with higher informality within Brazil. The key mechanism is that workers take longer to find a formal job where these jobs are scarcer, independently of UI incentives. Thus, the cost of UI will disproportionately come from a mechanical cost rather than a behavioral cost, particularly when the potential UI duration is relatively short as in developing countries (Figure 2b). The efficiency costs of UI, therefore, do not appear to increase with informality, at least for the sources of inefficiency considered in the Baily-Chetty framework.[2]

The same mechanism implies that a given UI program will be more costly in terms of how much funding it requires (not in terms of efficiency costs) in developing countries. Formally, let's assume that UI is funded through a payroll

[2] It could be tempting to make the opposite argument regarding the relationship between informality and the efficiency costs of UI: all else equal, working informally could be seen as a more productive use of workers' time than staying unemployed. Working informally would indeed lead to higher economic output. However, in terms of welfare, working informally also likely involve higher disutility costs. Importantly, as Gerard and Gonzaga (2021) argue, the Baily-Chetty framework used to evaluate the welfare effects of UI does not require information on whether workers who delay their formal reemployment are employed informally or not employed at all. The consequences of these choices are internalized by the worker when optimizing. Thus, behavioral responses only have first-order welfare effects through their impact on the government budget, even though working informally vs. remaining unemployed may have very different private costs and benefits.

tax on formal employees, as in most countries around the world. To balance the UI budget, a government must then set policy parameters such that:

$$\boldsymbol{D} \times \boldsymbol{\tau^{UI}} = \boldsymbol{b} \times \boldsymbol{B} \quad (2)$$

The left-hand side of equation (2) captures UI revenue, where *D* is the average number of periods that workers spend in formal employment per layoff, and $\boldsymbol{\tau^{UI}}$ is the average tax paid per period. The right-hand side captures UI spending, which depends on the benefit level *b* and the average benefit duration *B*. The latter can be written as $\boldsymbol{B} = \sum_{\mathbf{t=0}}^{\mathbf{P-1}} \boldsymbol{S_t}$, where *P* is the potential UI duration and $\boldsymbol{S_t}$ is the share of workers remaining without a formal job in each month *t* since job loss. If workers take longer to find a new formal job, UI spending will be mechanically higher for any given policy *{b, P}*. Therefore, the government must fund it either through a higher payroll tax rate or a longer minimum contribution period as observed in developing countries (Figure 2a). Workers might also not be willing to pay for this, particularly if they are over-optimistic about the risk of job loss and its consequences (Spinnewijn 2015).

Severance Pay – Using data from Austria, Card et al. (2007) first showed that SP can delay formal reemployment if workers are liquidity-constrained. Consistent with standard income and substitution effects, the impact is smaller than that of an equivalent increase in UI benefits. Their findings imply that the efficiency costs of UI are higher ($\boldsymbol{FE^{UI} > FE^{SP}}$) through two channels. First, an increase in the duration without a formal job will increase average benefit

duration and UI spending but leave the cost of SP unaffected. Second, the greater delay in formal reemployment will imply a greater loss in tax revenues.

Britto (2022) shows that increasing UI benefits has a stronger impact on workers' duration without a formal job than providing cash-on-hand at layoff in Brazil. However, workers also find better jobs in subsequent years – more stable, paying higher wages – with the increase in UI benefits such that total earnings in formal wage employment over a three-year period are higher when compared with the lump-sum transfer. Consequently, while the overall efficiency costs remain higher for the increase in UI benefits, it is only due to the first channel; an equivalent increase in cash-on-hand at layoff would lead to a greater loss in tax revenues in Brazil.

While the absence of UI programs in low-income countries implies that there is no evidence on what their impact would be, Abebe et al. (2024) provides evidence on the impact of SP for Ethiopia. They find that providing cash-on-hand to displaced formal workers reduces their likelihood of working in any job and their likelihood of working as a formal wage employee in subsequent months. Income effects thus appear relevant for displaced formal workers in low-income countries, where SP is the only form of JDI.

2.3 Insurance value

To discuss the insurance value of UI and SP, it is useful to first abstract from the fact that SP is usually provided directly by firms rather than by the government and assume that both policies are funded through a payroll tax on formal

employees as in Baily (1978). Their insurance value then depends on the gap in the marginal utility of consumption between those targeted to receive the additional financial support after layoff and formal employees. Section 1.2 reviewed evidence indicating that this insurance value is likely sizable. We thus focus here on the relative consumption-smoothing gains of UI and SP.

Contingency policy – A key advantage of UI over SP in terms of insurance value comes from their different contingency policy, as discussed in Section 2.1. The importance of this targeting difference, however, will be weaker where workers take longer to find a new formal job. Indeed, a smaller share of the support provided by SP will go to workers who find jobs quickly. So, while the consumption-smoothing gains will remain higher for UI than for SP, the difference will likely be smaller in developing countries.

Gerard and Naritomi (2021) provide evidence consistent with this point. They estimate the relative drop in consumption spending in the months following job loss for all displaced workers together and for those who remain without a formal job separately. Although the first group fares better on average, the difference in their consumption profile over time is relatively small. Liepmann and Pignatti (2021) shows that the difference in the earnings profile of the two groups of workers is also relatively small in Mauritius. In both contexts, this is solely because most workers take a long time to find a new formal job; those who find a formal job quicker experience smaller earnings losses.

Disbursement policy – Another often-overlooked difference between SP and UI comes from their "disbursement policy:" lump-sum vs. tranche payments, respectively. In a standard economic framework, this difference should not matter much: lump-sum transfers can be dissaved slowly, and tranche payments can be saved. However, there is growing evidence that consumption is highly sensitive to cash-on-hand, in which case the different disbursement policy of SP and UI can impact their relative insurance value.

Gerard and Naritomi (2021) show that consumption spending is indeed very sensitive to the timing of JDI payments. They study a sample of workers who are eligible for SP and UI at layoff. The incentives to smooth the positive transitory income shock from SP are particularly strong because losing a formal job is a negative permanent income shock. However, they show that average consumption spending increases sharply after layoff when workers receive their SP. This pattern holds even among workers who take a long time to find a new formal job. Workers also fail to smooth in anticipation of the expected drop in income at UI exhaustion, at which point consumption spending drops sharply, a pattern also found for workers in the U.S. (Ganong and Noel 2019).

These findings are at odds with standard models of job-search and consumption with liquidity constraints and forward-looking agents (Card et al. 2007; Chetty 2008). Gerard and Naritomi (2021) show that assuming workers are present-biased can rationalize both the high propensity to consume out of cash-on-hand and the low propensity to save in anticipation of a negative shock. A model with

sophisticated present-biased workers is also supported by surveys of displaced workers. In Brazil, 60% of respondents would not want to receive all their UI benefits in a lump-sum fashion at layoff (Gerard and Naritomi 2021). In Ethiopia, about 50% would prefer to receive the same amount in five monthly installments rather than lump-sum after layoff (Abebe et al. 2024). In both cases, workers state that tranche payments help them "control expenditures" or "not spend it all at once."

These findings imply that the insurance value of increasing UI benefits is strengthened by their periodic disbursement, which helps workers smooth consumption. By contrast, the insurance value of increasing SP is limited if workers spend the extra liquidity at a time when consumption is already higher (and marginal utility lower).[3] Present bias is not the only mechanism for a high sensitivity of consumption to cash-on-hand. In developing countries, there could be limited savings technologies (e.g., access to banks). There is also a growing literature on the implications of kinship taxation (e.g., Squires 2018), which could generate a similar pattern. These mechanisms do not appear first-order in Gerard and Naritomi (2021) and Abebe et al. (2024). Nonetheless, they could contribute to the importance of the disbursement policy for the insurance value of JDI in other contexts.

[3] The same limitation would apply to the broader idea of providing liquidity to displaced workers (Chetty, 2008), unless done in installments.

2.4 Taking stock

The existing evidence provides important nuances in the comparison between UI and SP policies. The advantage of SP in terms of the efficiency costs considered in the Baily-Chetty framework does not appear stronger in developing countries. An argument that SP is better than UI for developing countries could still rest on its insurance value. Indeed, the consumption-smoothing advantage of UI over SP due to its different contingency policy is weaker. Its different disbursement policy, however, still confers a critical advantage to UI over SP in terms of insurance value. Yet, there is a priori no reason why tranche payments should be limited to benefits that are contingent on remaining without a formal job. For instance, one could think of an alternative policy providing displaced workers with an unconditional benefit amount (as with SP) paid in periodic installments (as with UI). Simulations in Gerard and Naritomi (2021) suggest that such a policy could have similarly low efficiency costs as SP while achieving two thirds of the consumption-smoothing gains of UI in Brazil. The evidence in Abebe et al. (2024), who evaluated such a policy experimentally, indicates that making an unconditional payment in five monthly installments after layoff (rather than in a lump-sum fashion) not only helps workers smooth consumption, but also speeds up their reemployment.

3 Other key themes

3.1 Moral hazard on the separation margin and JDI funding

The framework in Section 2.1 focuses on the moral hazard issue that arises from workers changing their search effort and reemployment outcomes in response to JDI benefits. Another relevant source of distortion is how firms and workers may change their decision to separate, affecting JDI claims as a result. In high-income countries, the typical concern is that UI effectively subsidizes temporary layoff arrangements (Feldstein 1976). An additional issue, which is particularly relevant with higher informality, is "fake layoffs" where workers continue working in the firm through informal contracts. Several papers have contributed to our understanding of this issue in Brazil, showing that UI claims can be responsive to UI eligibility for low-tenure workers (Carvalho et al. 2018; Cravo et al. 2020; Van Doornik et al. 2023). These fiscal externalities could be a major additional source of inefficiency costs in developing countries.

In the notation of equation (2), such behavioral responses reduce the number of periods that workers spend in formal employment per layoff D, requiring higher taxes, longer minimum contribution periods, or cuts in benefits to balance the UI budget. The optimal solution to this type of moral hazard, however, is different (Blanchard and Tirole 2008). It consists in introducing experience-rating, wherein firms internalize the costs they impose on the UI system when laying off workers. SP avoids this issue because it is experience-rated in its usual form: firms pay more in SP if they lay off more workers. This difference would

cease to exist by perfectly experience-rating UI, i.e., by funding it through a lay-off tax. Firms could pass-through the lay-off tax and the expected cost of SP through lower wages in similar ways. The remaining insurance embodied in these policies is that workers who are laid off later than expected transfer resources towards those laid off earlier.

Yet, it is worth noting that experience-rating of UI remains rare in practice. None of the attempts to introduce it in Brazil succeeded.[4] This could be due to political economy factors, especially if sectors that typically experience higher turnover are also labor-intensive and thus more effective at blocking such proposals. One potential solution would be to introduce a form of experience-rating that establishes industry-specific targets: firms that utilize the UI system more than the industry average would be required to make higher contributions. This type of funding could mitigate moral hazard, while leaving implicit transfers from workers in low- and high-turnover industries in place.[5]

3.2 Economy-wide effects

Most of the evidence on the impact of JDI on formal reemployment in developing countries uses variation in incentives across workers or firms within

[4] Experience-rating is written in the Constitution, but has never been regulated into law. A form of experience-rating effective in Brazil from 2001 to 2020 involved a fine proportional to the lump-sum transfer provided to workers at layoff, which was allocated to fund the UI budget (Gonzaga 2003 and Van Doornik et al. 2023).

[5] In theory, increases in UI claims in response to JDI benefits could also come from workers shirking and triggering their layoff. This type of behavioral response has not been the focus of the literature. No degree of experience-rating on the firm side would resolve this issue. Reducing UI benefits or introducing experience-rating on the worker side could address this concern, but the latter would move the policy towards a mandatory savings scheme (see below).

a labor market. Micro-level estimates may fail to predict labor-market-wide effects and inefficiency costs accurately, however. For instance, formal reemployment responses to UI incentives at the micro-level may over-estimate or under-estimate labor-market-wide effects in matching models, by alleviating negative job-search externalities or depressing labor demand (by increasing wages through bargaining), respectively (Landais et al. 2018). Studies from higher-income countries suggest that the former effect dominates (Lalive et al. 2015), but this evidence may not generalize to lower-income countries.

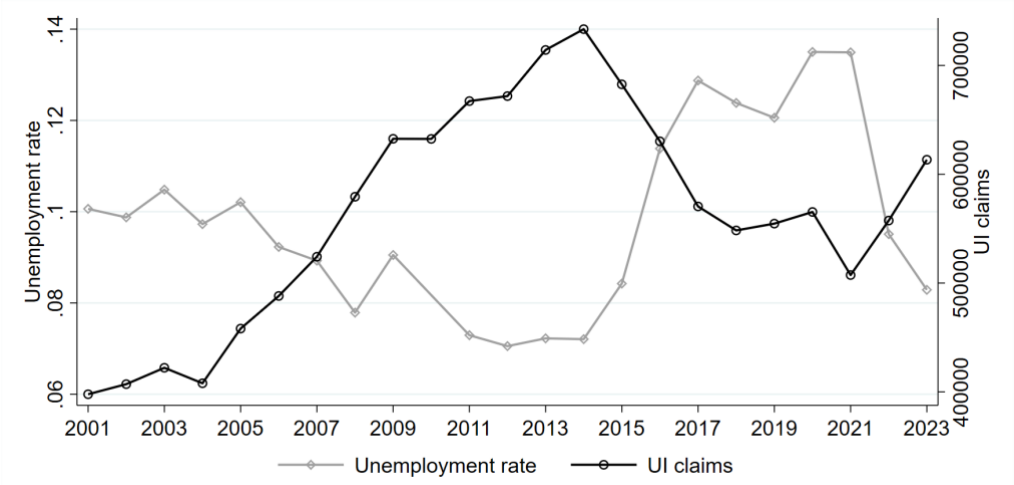
The effects of JDI policies on overall formal employment will also fundamentally depend on their economic incidence and the value that workers attach to JDI coverage (see, e.g., Bosch and Esteban-Pretel 2015). For instance, even if the incidence falls mostly on workers, formal employment could increase if workers value JDI coverage above its cost (e.g., if they are risk-averse) but decrease otherwise (e.g., if they under-estimate job loss risk). If some of the incidence falls on firms, the magnitude of any change in formal employment will also depend on the competitive structure of the labor market. Direct empirical evidence on these questions remains limited.[6]

At a macro level, it is also worth noting that the cyclicality of layoffs and JDI claims may differ in developing countries. UI claims typically rise in recessions in Europe and the U.S. (e.g., Davis et al. 2012). By contrast, Figure 6 shows that

[6] See Kugler (2005) for early work on the incidence of a (savings-based) JDI policy.

they have been pro-cyclical in Brazil as the number of formal layoffs (real or fake) increases when formalization intensifies with economic growth.

Figure 6: UI claims and the business cycle in Brazil



Notes: The figure displays the relationship between UI claims and the unemployment rate in Brazil over time and different business cycles. The unemployment rate is taken from the PNAD and *PNAD Contínua* household surveys conducted by the Brazilian Statistical Census Bureau (IBGE). UI claims are the total number of unemployment insurance requests in each year (source: Brazilian Labor Ministry).

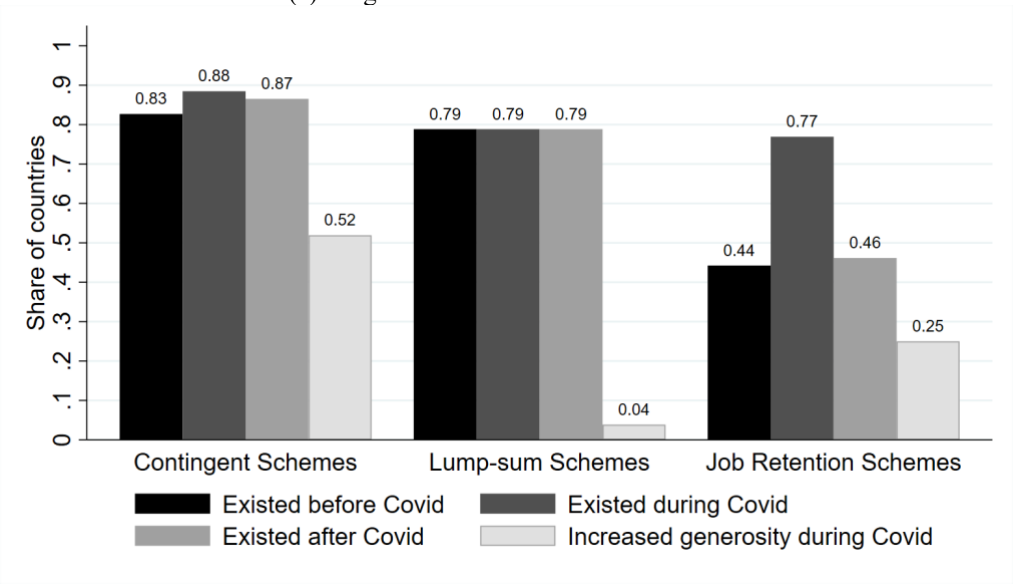
3.3 State Capacity

State capacity is an important constraint for JDI policy design. UI requires a sophisticated state apparatus, capable of collecting taxes, determining benefits, managing payments, and tracking job displacement and formal reemployment (Vodopivec 2013). SP does not require tracking reemployment. Being typically mandated to employers, it also shifts to firms the cost of computing and disbursing payments. This could explain why UI is still rare in developing countries (Figure 1). State capacity constraints could also prevent countries from effectively responding to economic emergencies. Figure 7 shows that few developing countries introduced UI during the COVID-19 crisis. Yet, almost

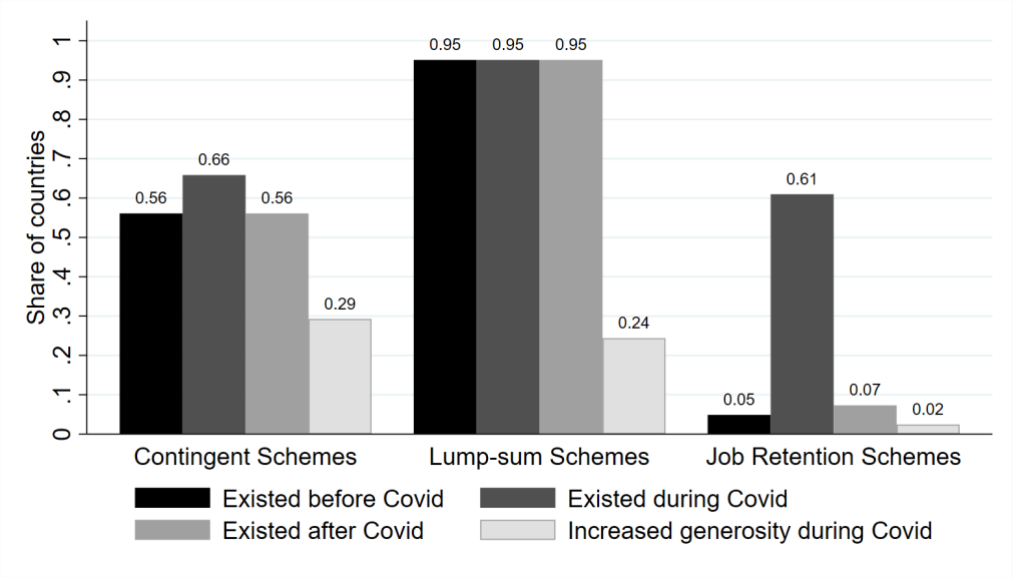
half of those that had a UI program were able to use it to channel extra assistance to workers and their families.

Figure 7: Job displacement insurance policy response to the COVID-19 crisis

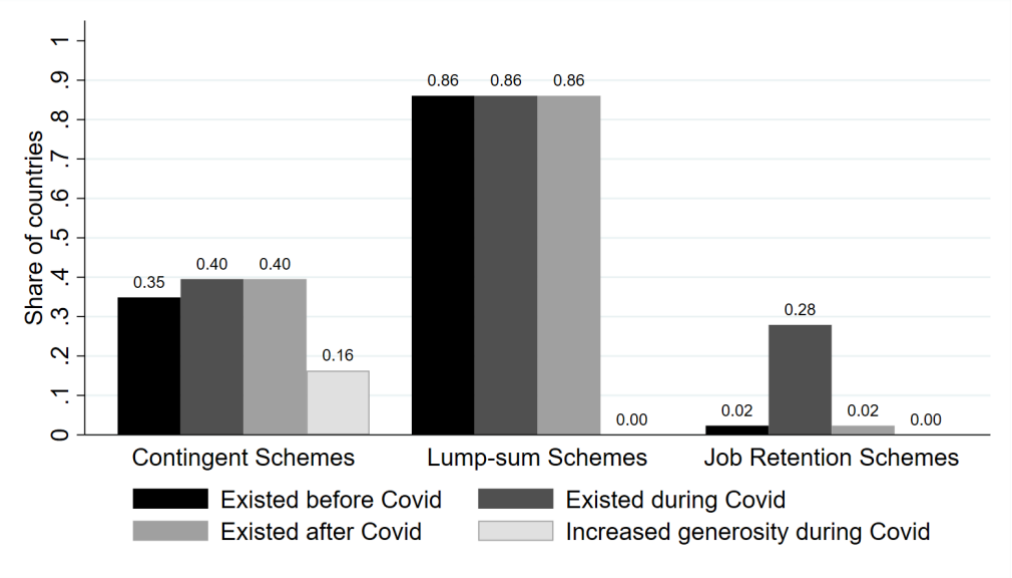
(a) High income countries



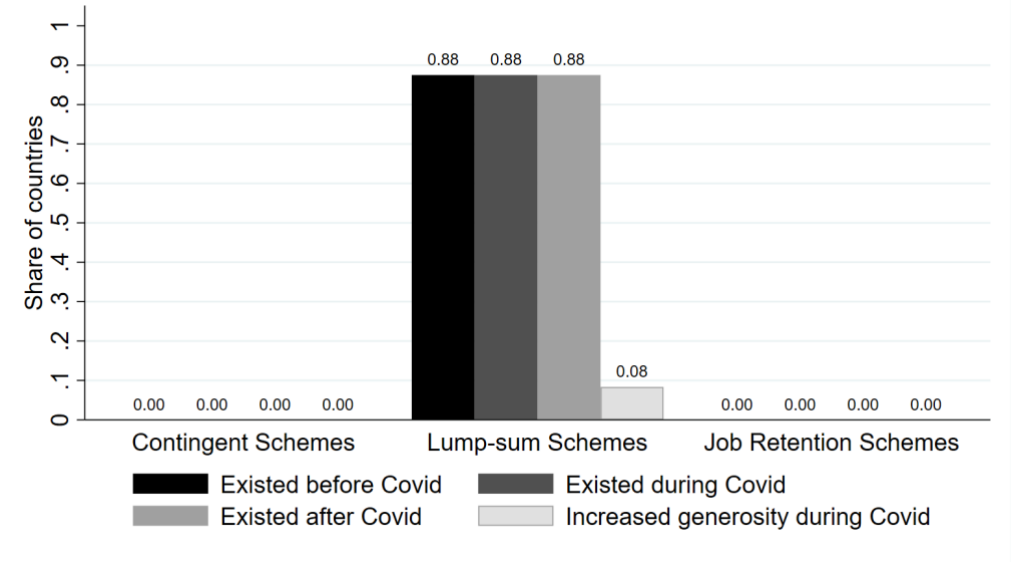
(b) Upper middle income countries



(c) Lower middle income countries



(d) Low income countries



Notes: Data for 163 countries on the type of JDI programs (see Gerard et al. 2024 for details) before the COVID-19 pandemic (as of 2019), during (2020-2021) and after (2022-2023).

Still, governments must enforce that employers fulfill their legal obligations at separation. Household surveys indicate that employment disputes are the main source of justice need in Brazil, and compliance with SP is the top issue for cases filed in labor courts (Britto et al. 2024). Figure 2 documents larger

statutory SP in lower-income countries, but we know little about the amounts that workers receive given imperfect enforcement. A small but growing literature studies how enforcement through labor courts could be ineffective. Sadka et al. (2024) provide experimental evidence of information frictions and agency issues in Mexico. Britto et al. (2024) show how liquidity constraints – particularly binding at job loss – affect case filing. An advantage of UI is that it is government-run, which mitigates non-compliance risks in benefit payments.

3.4 Other policies

Savings-based JDI policies – Figure 1 shows that the two savings-based JDI policies are less common. Severance Savings Accounts have been implemented in 13 (mostly middle-income) countries. Unemployment Insurance Savings Accounts exist in only two countries (Chile and Jordan). Yet, they often figure prominently in policy debates, particularly for developing countries (e.g., Vodopivec 2013).

These savings-based policies, in their purest form, are mandatory savings for self-insurance. In Severance Savings Accounts, a portion of the worker's salary is deposited in an individual savings account and the worker can withdraw the balance at separation (or retirement). The typical motivation for such policies is that workers may not self-insure enough. The normative motivation must be carefully considered, however, as the policy forces workers to save but allow them access to the whole balance "lump-sum" at layoff. Present-bias and other savings constraints – poor access to banks, kinship taxation, poor financial

planning – could justify the former component of the policy but not the latter. They would imply a limited ability to spend cash-on-hand smoothly and motivate a tranche disbursement of the account balance (see Section 2.3).[7]

Unemployment Insurance Savings Accounts likely perform better than Severance Savings Accounts in terms of consumption-smoothing. First, it implements a form of tranche disbursement by only allowing workers to withdraw a maximum amount in each period after layoff. Second, workers can continue to receive a given amount each period even after they exhaust their account balance (up to a maximum duration). Workers essentially borrow from the government and pay back when returning to formal employment and making new deposits into their account. Third, only workers who remain without a formal job can withdraw from their account (or borrow) such that the forced savings are better targeted towards providing liquidity at times of need.

Yet, in contrast to Severance Savings Accounts, Unemployment Insurance Savings Accounts may distort formal reemployment through a substitution effect because access to liquidity is contingent on remaining without a formal job. Proponents of this policy argue that the distortion will be much smaller than that of UI (Feldstein and Altman 2007). Positive account balances at retirement are pensionable; negative account balances are either paid back through lower

[7] Another rationale to favor Severance Savings Accounts over SP schemes is to prevent payment compliance issues on the firm side. Yet, a solution to this issue must not eliminate the insurance component of SP: governments could collect an experience-rated SP tax while workers are formally employed and use these funds to provide them with SP at layoff.

pension benefits (as in Jordan) or forgiven. The argument is that, even in the latter case, forward-looking workers should internalize that any additional amount withdrawn (or received) comes at some personal cost in the future. Yet, if workers are present-biased, they may act as if delays in formal reemployment have no personal cost, i.e., as with UI.[8] This brings us back to the specific mechanism justifying mandatory savings in the first place. In practice, we lack empirical evidence quantifying the advantage of Unemployment Insurance Savings Accounts over UI in terms of incentive effects to assess whether it justifies the loss in insurance value.[9]

Finally, it is worth noting that the Chilean Unemployment Insurance Savings Accounts program was implemented with a Solidarity Fund that workers can draw from when exhausting their account balance (i.e., workers do not borrow against future contributions to their account). Such a system could further weaken the incentive advantage of the Chilean program as it becomes more like a usual UI (Hartley et al. 2011).[10]

Job retention programs – Figure 7 highlights another type of policy that became quite prominent in high- and middle-income countries following the COVID-

[8] Forgiving negative balances brings back a potentially valuable insurance component into the Unemployment Insurance Savings Accounts scheme, at the cost of reducing incentives to return to a formal job even with forward-looking agents.
[9] Moreover, the few papers assessing the gains from adopting Unemployment Insurance Savings Accounts programs in developing countries through a model-based approach typically assume forward-looking workers (Cirelli et al. 2021).
[10] A main issue with the Chilean program seems to be its limited coverage. Sehnbruch et al. (2022) finds that many formal workers are not covered in practice because they do not meet a minimum contribution criterion or have precarious labor contracts.

19 pandemic: job retention programs (also referred to as short-term work or wage subsidies). Their overarching idea is to insure the employment match between a worker and a firm rather than the worker. When hit by a negative shock, firms may want to temporarily decrease the number of hours worked by their employees (possibly to zero) without dissolving the match. This type of adjustment is made easier by job retention programs as they replace part of employees' wages for the hours not worked up to a maximum duration (firms still pay in full for the hours worked). Preserving the employment relationship in such a way could be welfare enhancing if there are labor market frictions or job-specific human capital (Giupponi et al. 2022).

A growing empirical literature highlights the many frictions limiting the ability of firms and workers to match efficiently in developing countries (e.g., Abebe et al. 2021a). Avoiding good matches to be destroyed by temporary shocks may thus be particularly relevant in these contexts. Yet, job retention programs are demanding in terms of state capacity to avoid fraud, as monitoring hours worked is even more challenging than observing whether a worker is employed or not. Perhaps for this reason, Figure 7 shows that most developing countries that adopted these schemes during the COVID-19 pandemic did it on a temporary basis (and countries that already had UI were twice as likely to adopt job retention programs).

3.5 Coverage

An important difference between higher- and lower-income countries is the large share of workers facing job loss risk who are excluded from JDI coverage. Informal workers constitute a larger portion of the labor force in lower-income countries and Donovan et al. (2023) show that job loss risk is particularly high for these workers. Moreover, the design of JDI policies exclude many formal workers. Developing countries have higher minimum contribution requirements for UI, and SP amounts increase steeply with tenure (Figure 2). Consequently, workers may have limited protection if they face high job loss risk with long spells without a formal job.

Other policies that are widespread in developing countries – cash and in-kind transfers programs – could provide some insurance value to uncovered workers. However, their eligibility criteria might be too "static" to allow workers to become beneficiaries immediately after a negative labor market shock (these transfer programs aim at alleviating "persistent" poverty). Eligibility is often assessed infrequently using slow-moving indicators of need (as with proxy-means testing). Additionally, middle-class workers may not become poor enough to qualify even after experiencing a significant drop in household earnings.

Workfare programs with unconditional employment guarantees could in theory provide more timely support. Yet, existing workfare programs in urban areas, where the concept of job loss may be more palatable, rarely come with

unconditional employment guarantees. Eligibility for employment through the urban workfare program in Ethiopia, for instance, remains restricted to the "persistent" poor (Abebe et al. 2021b). Existing programs with unconditional guarantees – e.g., NREGA in rural India – often fail to provide employment or pay in a timely manner (Dodge et al. 2021). Nevertheless, more research is needed to assess the insurance value of these policies.

Finally, it is important to consider that the need for job displacement insurance may be more limited among some groups of uncovered workers. For instance, formal and informal jobs may be closer substitutes for some formal workers with weaker JDI coverage (e.g., younger lower-wage workers). Informal risk sharing arrangements may also provide meaningful insurance against labor market shocks in some settings. A strand of the literature in development economics argues that household consumption varies little with economic shocks in lower-income countries for this reason (Townsend 1994). Kinship transfers appear indeed important to laid off workers in Ethiopia (Abebe et al. 2024). Assessing the utility cost attached to these forms of informal risk sharing arrangements is an important avenue for future research.

4 Conclusion

This chapter has reviewed the main JDI policies in developing countries, focusing on how labor market informality influences their coverage and design. It has also highlighted significant gaps in the literature and proposed avenues for future research. Notably, most of the available evidence originates from a

few middle-income countries. Hence, additional research is needed to enhance our understanding of these issues, considering the substantial contextual variation within the category of "developing countries."

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A full set of references for all Handbook chapters, including this one, can be found at this link: https://www.dropbox.com/scl/fi/9lqs2mdrawkjdrv4m648e/References-Social-Protection-Handbook.pdf?rlkey=jt0f8kute31mhdke77aoiw99d&st=kd7l8ff1&dl=0