Transitions to and from formal employment and income dynamics: Evidence from developing economies

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Abstract

Using panel data for Indonesia, Malawi, Peru and South Africa, this paper investigates the relationship between transitions to and from formal employment and workers' labour income. It shows that transiting from informal to formal employment increases the probability of improving workers' labour income in both absolute and relative terms. However, income gains from formalisation do not accrue to all workers equally. Switching to formal employment has the greatest potential to improve the labour income of the richest workers. The chances of improving the labour income of the poorest workers through formalisation are slim. Transitions between formal and informal employment affect income gains and losses differently for men and women, older and younger workers, and workers with different levels of schooling. The effects of labour market transitions on income changes are considerably greater in magnitude than other life events such as a births, separation, or death of a partner or spouse.

Résumé

À partir de données de panel pour l'Afrique du Sud, l'Indonésie, le Malawi et le Pérou, ce document de travail étudie la relation entre les transitions de et vers l'emploi formel et le revenu des travailleurs. Il démontre que le passage d'un emploi informel à un emploi formel augmente la probabilité d'améliorer le revenu des travailleurs en termes absolus et relatifs. Néanmoins, les gains de revenus ne sont pas distribués de la même manière : le passage à l'emploi formel bénéficie plus aux travailleurs qui ont déjà les revenus les plus élevés ; en revanche, les travailleurs les plus pauvres ont moins de chances d'améliorer leurs revenus. Les gains et les pertes de revenus diffèrent également selon le genre, l'âge et le niveau d'éducation. Les transitions sur le marché du travail ont des effets considérablement plus importants sur les revenus que les autres événements de la vie tels que les naissances, les séparations ou le décès d'un partenaire ou d'un conjoint.

Classification JEL : D31, I3, E26, J46

Mots clé : informalité, emploi informel, pauvreté, mobilité des revenus, transitions sur le marché du travail

Foreword

Challenges associated with informal employment have been at the heart of the OECD Development Centre's work since its establishment. Recent milestones include its report titled *Informality and Globalisation: In Search of a New Social Contract* (2023), which is a follow-up on earlier work, including the OECD report, *Tackling Vulnerability in the Informal Economy* (2019), produced jointly with the International Labour Organization (ILO), and the seminal OECD report *Is Informal Normal?* (2009). To enable this analytical and policy work, the OECD Development Centre has produced innovative, comparative data on informality, published in 2021 as the *Key Indicators of Informality based on Individuals and their Household* (KIIbIH) database. The Centre also plays an active role in the ILO Working Group for the Revision of the Standards for Statistics on Informality, and in the Global Partnership for Universal Social Protection (USP2030).

This paper has been produced in the context of the OECD Development Centre project "Tackling the Vulnerability of Informal Workers and their Household Members". The aim of the project is to advance knowledge about various types of informal workers' vulnerabilities, as well as knowledge about policies that can effectively improve the working conditions of informal workers and their chances of formalisation.

To this end, the paper explores the linkages between workers' transitions to and from formal employment and subsequent changes in their labour income. Using panel data from selected developing and emerging economies, and applying rigorous statistical and econometric analysis, the paper shows that moving to formal employment significantly improves workers' odds of earning a higher income, whereas moving to informal employment risks worsening their income. However, it also shows that formalisation does not translate into similar income gains for all workers undergoing the transition. In particular, workers already in relatively better income situations benefit more than poorer workers.

It is hoped that the findings presented in this paper will help governments design better and more nuanced labour market and social protection policies that will leverage the benefits of formalisation to all workers and help protect workers in all types of employment situations, whether formal or informal. This is also one of the priority actions of the "New Deal for Development", agreed at the High-Level Meeting of the Governing Board of the OECD Development Centre in October 2020.

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1 Introduction

Informal employment is a key feature of, and a key challenge for developing countries. It represents nearly 60.0% of the world's employed population globally, ranging from 89.0% in low-income countries to 81.6% in lower middle-income countries to 15.9% in high-income countries (OECD, 2023[1]). Compared to formal workers, informal workers are often at risk of inferior working conditions and in-work poverty. Informality is often considered to be one of the obstacles to inclusive and sustainable development (OECD/ILO, 2019[2]; OECD, 2009[3]).

Formalisation brings, first and foremost, social and labour protections. In addition, it is often seen as a way to improve workers' incomes and lift workers out of poverty This is why, over the period 1990-2020, transitioning workers and enterprises to formality became an important item on the policy agendas of many developing and emerging economies. Formalising workers and enterprises is one of the Sustainable Development Goals (SDGs). SDG 8 aims to "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all", and SDG 8.3 calls on governments to "Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalisation and growth of micro-, small- and medium-sized enterprises including through access to financial services". The International Labour Organization (ILO) Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204) explicitly indicates the need to "facilitate the transition of workers and economic units from the informal to the formal economy" and to "prevent the informalisation of formal economy jobs". Many countries have implemented specific policies to facilitate the transition to formality (for specific examples, see, among others, (Kiaga and Leung, 2020[4])).

But does formalisation really improve worker incomes? And if yes, does this happen to all workers uniformly? These questions are important from a policy perspective because positive answers would mean that formalisation is not just a goal in itself but can yield tangible benefits; it can also create a financial incentive to formalise when formalisation is a choice.

This paper examines these questions. First, it documents the frequency of transitions to formal employment, and the size of flows between different labour market statuses. Second, it examines whether transitions to formal employment are indeed accompanied by improvements in income. Conversely, it also considers whether transitions to informal employment are accompanied by income losses. Third, it examines the profiles of workers to whom most of the benefits of formalisation accrue. Finally, it compares the effects of labour market transitions on income changes with the effects of other life events such as a birth, separation, or death of a partner or spouse. This paper answers these questions in the context of four developing and emerging economies – Indonesia, Malawi, Peru and South Africa.

The paper goes on to show that formalisation increases the probability of improving workers' labour income, whereas informalisation increases the probability of workers earning a lower labour income. However, and this is an important message, income gains do not accrue to all workers equally. Switching to formal employment has the greatest potential to improve the income of the richest workers who are already at the top of the income ladder. In contrast, low incomes persist for the poorest workers despite formalisation. In addition, when the findings for women and men moving to informal employment are analysed, women have higher odds of experiencing large income losses than do men. Finally, the effects of labour market transitions on income changes are considerably more important than the effects of other

life events such as a birth, separation, or death of a partner or spouse, even if such events increase the likelihood of entering poverty. The paper discusses the policy implications of these findings.

The paper relates to numerous earlier studies which examined the linkages between informality and poverty (Pham, 2022[5]; Amuedo-Dorantes, 2004[6]; Pratap and Quintin, 2006[7]; Devicienti, Groisman and Poggi, 2010[8]), or which showed that labour markets in developing countries are segmented along informality lines, with informal jobs paying lower wages (Bertranou et al., 2014[9]; Reich, 2008[10]; Peña, 2013[11]). It complements the existing studies in several ways. First, it looks at countries that were not previously examined using this type of analysis, notably Indonesia, Malawi and Peru. Second, it applies a uniform definition of informal employment across countries, consistent with the ILO Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204). Third, compared to several studies, such as (Fields et al., 2023[12]), it differentiates between the informality status and other worker characteristics such as income or education, and it analyses how transitions between labour statuses affect income, and how they differ for different population groups, including workers with different levels of education. The findings presented in this paper confirm some of the previous findings for other countries, but also allow for nuances due to methodological differences.

The rest of the paper is organised as follows. Section 2 provides a literature review showing how the analysis of this paper relates to the existing research. Section 3 gives a brief presentation on the labour market context in the countries in our sample. Section 4 describes the data, the sample, and how the main variables were constructed. Section 5 presents descriptive evidence on the extent of labour market transitions, and descriptive results on the linkages between these transitions and income mobility. Section 6 takes these results further, examining the linkages in the regression analysis setting. Finally, Section 7 discusses the findings and makes policy recommendations.

2 Informal employment and income mobility: Literature review

This paper draws on two strands of the literature. The first strand looks at labour market transitions, examining their nature, frequency, duration, and the profiles of workers who make these transitions. The second and related strand links these transitions to income changes, labour earnings risks, and income mobility (for overviews, see (OECD, 2018[13])).

With regard to the first strand, since the 1990s, lively academic and political discussions on the topic of transitions between different types of employment – and specifically between temporary and permanent jobs, or full-time and part-time employment – have been taking place. A larger rate of transitions from non-standard (often informal) to standard (and usually formal) employment are taken as evidence that non-standard jobs can serve as stepping stones in the labour market, while low transitions indicate the problem of "dead-end jobs" in the sense that workers either remain in these jobs for a long time or slip into unemployment or economic inactivity upon termination of these jobs. Knowing which types of non-standard jobs predominate helps to inform more general advice on employment creation strategies, social security systems and active labour market policies (ILO, 2016[14]).

Existing evidence shows that annual transitions from non-standard to standard employment vary significantly across countries. In some countries, labour markets can be quite stagnant. For example, in Indonesia, only 5.8% of casual workers (who are mainly informal) move to permanent salaried jobs each year; the same share moves to own-account jobs, mainly because of the low income earned as casual workers (Yi, Eyraud and International Labour Office, 2008[15]). In Bangladesh, 22.0% of casual employees move to private wage jobs each year, but none move to the public sector (Gutierrez et al., 2019[16]).

In other countries, labour markets are somewhat more dynamic. For example, in Ghana and Uganda, the percentage of transitions out of casual and other temporary jobs, which are mainly informal, can be up to 30% per year, but these transitions mainly involve men (Dumas and Houdré, 2016[17]). Non-standard jobs tend to have a higher "stepping-stone" potential in countries where there is a higher prevalence of standard formal jobs in the first place. Moreover, men, prime-age workers, native-born workers and workers with tertiary degrees usually are more likely to move to standard employment (for a review, see (ILO, 2016[14])).

The second strand of the literature, which links transitions between formal and informal employment to income transitions, is more recent. Obviously, the *interest* in doing such analysis is not recent. Indeed, early examples include (Maloney, 1999[18]) for Mexico, (Funkhouser, 1997[19]) for El Salvador, and (Devicienti, Groisman and Poggi, 2010[8]) for Argentina. However, the lack of data impeded this type of analysis on a larger scale until 2010s. In El Salvador, in the 1990s, moves to formal employment were associated with gains in earnings, for men and women alike. In contrast, moves to informal employment did not have a symmetric effect: Women may have experienced income losses, whereas men may have experienced slight income gains (Funkhouser, 1997[19]). Evidence from the early 2000s in Argentina also shows that both poverty and informal employment are highly persistent processes, with past poverty determining current informal employment, and past informal employment increasing the risk of experiencing poverty (Devicienti, Groisman and Poggi, 2010[8]).

A handful of studies carried out since 2020 show that transition dynamics are very different across countries. Moreover, transitions are also heterogeneous across workers. For example, in Brazil, young workers originally employed in the informal sector are more likely to move to formal employment than are older workers. Low-earning workers in the formal sector are more likely to switch to informal employment, whereas high-earning workers in the informal sector are more likely to move to formal employment (Gomes, Iachan and Santos, 2020[20]). In addition, earnings inequality and earnings volatility differ among formal and informal workers in Brazil. Over the period 2002-16, earnings volatility among those workers who remained in the informal sector declined; earnings volatility for formal sector stayers as well as for switchers from the formal to the informal sector declined but to a lesser extent, and earnings volatility of switchers from the informal to the formal sector actually increased. Among workers in Brazil's formal sector, there has been a sizeable decrease in earnings inequality. Overall, because of a gradual sizeable decline in informal employment share, earnings inequality in the total labour force in Brazil decreased since around the late 1990s (Engbom et al., 2022[21]).

A series of papers circa 2023, all based on the same methodology, examined transitions not only between formal and informal jobs, but also within "upper-tier" and "lower-tier" informal jobs (Fields et al., 2023[12]). This methodology was applied to studying labour market and income dynamics in Costa Rica, India, Nicaragua, the People's Republic of China (hereafter: China), and a number of African countries. While definitions vary across these papers, "upper-tier" jobs are considered to offer at least some degree of social or labour protection and generally require a higher level of skills.

These papers report a series of common findings. For example, workers with the lowest level of skills and human capital have the lowest probability of moving to formal jobs in countries as diverse as China (Lin, Ye and Zhang, 2020[22]), India (Natarajan, Schotte and Sen, 2020[23]), Costa Rica or Nicaragua (Alaniz et al., 2020[24]). For those who make such transitions, moving from informal to formal jobs is associated with improvements in earnings in India (Natarajan, Schotte and Sen, 2020[23]), China (Lin, Ye and Zhang, 2020[22]), Costa Rica and Nicaragua (Alaniz et al., 2020[24]), Ghana, South Africa, Tanzania, and Uganda (Danquah, Schotte and Sen, 2019[25]).

However, there are also many country-specific nuances. For example, in China, informal employment is more common among rural migrant workers. Because these workers usually have a very low level of skills and human capital, and also face the hukou system, transitions to formal employment remain relatively infrequent (Lin, Ye and Zhang, 2020[22]). When such transitions take place, they lead to an improvement in earnings, especially for the lower-tier informal workers.

In Costa Rica and Nicaragua, if transitions are quite dynamic, they mainly take place from lower-tier informal jobs to upper-tier informal jobs, and less so to formal jobs (Alaniz et al., 2020[24]). In contrast, transitions out of formality are low, indicating that formalisation is relatively stable in these countries, and that there is a certain labour market duality across formal/informal lines.

In India, there is strong segmentation of the labour market, manifested by a high persistence of both formal wage employment and lower-tier informal wage employment. If nearly one-half of all workers change their employment status over a 7-year period, most of this mobility takes place either within self-employment (from formal to informal and vice versa), or within wage employment, but not between wage employment and self-employment. Moreover, for informal workers, there is also a substantially higher risk of a move from the upper to lower tier of income distribution rather than to formality. Women, lower castes, workers with less formal education and rural workers are less likely than men, upper castes, workers with more education, and urban workers to move to formal employment (Natarajan, Schotte and Sen, 2020[23]). The fact that there is the highest persistence within the lower tier of informal wage employment also suggests that workers with limited human capital and poor skills have the lowest probability of improving their labour market situation.

In Nigeria, transitions to and from formal employment are quite frequent. However, the probability of moving from informal to formal employment is substantially higher for upper-tier wage employed workers than for lower-tier wage employed workers (Folawewo and Orija, 2020[26]).

In African countries, such as Ghana, South Africa, Tanzania and Uganda, there is a high persistence of the lower-tier segment of informal employment, with self-employed poor workers having particularly low odds of moving not only to formal jobs but also to informal upper-tier jobs. Where upper-tier workers are relatively mobile, for the vast majority of these workers, informal employment is predominantly in lower-tier jobs, and therefore represents a dead end. Formal employment is also persistent, suggesting strong duality in the labour market (Danquah, Schotte and Sen, 2019[25]).

This OECD Development Centre study complements the existing studies in several ways. First, it looks at countries that were not previously examined using this type of analysis, notably Indonesia, Malawi and Peru. Second, it applies a uniform definition of informal employment across countries, consistent with the ILO Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204). Third, compared to several studies summarised in (Fields et al., 2023[12]), it does not conflate informality status with other characteristics such as income or education. Rather, it studies how transitions between different statuses affect income, and how they differ for different population groups, including workers with different levels of education. The findings presented in this paper confirm some of the previous findings for other countries, but also allow for nuances due to methodological differences.

Finally, this paper focuses on individual worker transitions. Several studies have looked at formalisation of enterprises and the impact of formalisation on enterprise performance, including revenues. Examples include evidence from Bolivia (McKenzie and Seynabou Sakho, 2010[27]); Brazil (Fajnzylber, Maloney and Montes-Rojas, 2011[28]); India (Sharma, 2013[29]); Sri Lanka (de Mel, McKenzie and Woodruff, 2013[30]); and Viet Nam (Rand and Torm, 2012[31]; Boly, 2017[32]). In some cases, the benefits of enterprise formalisation also accrue to workers in the form of better working conditions and wages.

3 The context of labour markets in the countries in our sample

The countries analysed in this paper, Indonesia, Malawi, Peru and South Africa, share one common feature: their labour markets feature pervasive informality and segmentation along formality-informality lines. However, each labour market has its particularity, described below. These particularities must be taken into account when interpreting the results of the analysis of this paper.

Labour market context and outcomes in Indonesia

Between 2000 and 2020, Indonesia recorded two decades of steady economic growth (OECD, 2021[33])., Unlike the situation that applies in many Asian countries, the share of the working-age population has increased in Indonesia, increasing GDP per capita growth (United Nations, 2019[34]).

The employment rate in Indonesia is one of the highest in G20 economies. In 2022, it stood at 64.7% of the population aged 15 years and older. Unemployment and labour underutilisation in Indonesia are low when compared with other emerging economies (ILO, 2022[35]).

The labour market in Indonesia is highly segmented and the share of informal workers in total employment is higher than in other countries in the region. In 2019, it stood at nearly 75.0% of non-agricultural employment. As elsewhere, informal workers in Indonesia are more vulnerable to various shocks than are other workers, and they easily fall into poverty (Yu, 2020[36]).

Since the 2000s, the government has been taking measures to address informality, such as simplifying the rules for enterprises' registration and decreasing administrative burdens. As a result, the share of informal workers decreased by more than 10 percentage points between 2007 and 2019 (OECD, 2021[33]). Nevertheless, product market regulation, and to a certain extent a high degree of employment protection, are considered to be among the factors that perpetuate informality (OECD, 2018[37]).

The share of informal workers varies across provinces; it is around 25 percentage points higher in East Nusa Tenggara than in the Riau Islands, while four provinces – including Jakarta – have a share below or around 70%, which to some extent is due to the difference in the share of employment in agriculture across the provinces. As in many other countries, enterprises operating in the informal economy are less efficient than formal ones. Their productivity in Indonesia is 25-70% lower than economy-wide productivity (Loayza, 2018[38]). These enterprises tend to be small, and they also tend to have limited access to banking services and consumers.

Compared to several other developing and emerging economies, workers in Indonesia are better equipped in terms of skills and human capital. An average Indonesian 6-year-old child can expect to attend school for 12.3 years. Adjusting for quality of education, Indonesia outperforms India and South Africa, but fails to match other economies of the region, such as Malaysia or Viet Nam.

While the share of public spending on education has increased from about 15.0% in 2000 to about 20.0% between mid-2010s and 2020, primary education is still underfunded (OECD, 2021[33]; Vincent-Lancrin,

2019[39]). The share of the population with upper secondary education rose from 19.5% in 2006 to 24.6% in 2018, but enrolment rates in lower and upper secondary education and Programme for International Student Assessment (PISA) test scores of 15-year-old students lag behind those in peer countries such as Malaysia and Thailand (OECD, 2018[40]; UNESCO, 2022[41]).

Technical and vocational education and training (TVET) is one of the main features of Indonesia's school system. The share of upper secondary students in the vocational stream increased from 33.0% in 2007 to 44.0% in 2018 (OECD, 2018[37]). The enrolment rate in tertiary education has increased progressively from 8.4% in 1990 to 36.3% in 2018. The wage premium for university graduates is considerable, with 3.5 years of additional time in tertiary education associated with a 26.6% increase in hourly wages, which is larger than that observed on average across OECD member countries (OECD, 2021[33]).

Labour market context and outcomes in Malawi

In 2022, the employment rate in Malawi was significantly higher than in other African countries, and stood at 71.1%. The unemployment rate was low, but its magnitude was masked by a high incidence of part-time work and underemployment: on average, a working person worked only 17 hours per week. There were significant gender differences, with women working significantly fewer hours (14 hours per week) than men (20 hours per week) (World Bank, 2021[42]). Consequently, the share of workers who are poor is 63.3%, which is similar to the situation in other Southern African countries (AUC/OECD, 2018[43]).

In Malawi, as is the case in other non-Southern African Customs Union (non-SACU) countries, the informal sector, particularly in agriculture, absorbs large shares of workers. In the mid-2010s, the share of informal employment stood at 87.0%. In 2020, self-employment and family work accounted for 53.0% and 7.0% of total employment, and were generally informal.

Most of the population still works in subsistence agriculture (AUC/OECD, 2021[44]). Structural transformation is taking place, but at a relatively slow pace. Since the early 1990s, the wholesale and retail sectors have accounted for the highest proportion of new employment generation. These two sectors are followed by government services and construction. While government services and construction are among the least productive sectors in the economy – with negative growth in terms of sectoral value added per worker – their productivity remains higher than that of the agriculture sector (World Bank, 2019[45]).

In addition to informality, poor skills and skills development remain major challenges. The labour market suffers from huge skills and education mismatches (Aleksynska and Kolev, 2021[46]). Similar to the situation that applies in many other countries in the region, in Malawi, 60.0% of employers on average equally value technical skills (efficient use of materials, technology equipment and tools) and soft skills (teamwork and communication) as factors essential for their business development (AUC/OECD, 2021[44]), but often both technical skills and soft skills are lacking.

There are no signs of improvement in this situation for newcomers to the labour market. For children, access to education, especially at secondary level, remains a challenge. The primary school net enrolment rate has slightly declined from 98% in 2016 to 90% in 2020. Secondary school net enrolment and school completion rates are extremely low. Due to a shortage of secondary schools coupled with high school fees, in 2021 only 14.6% of young people of secondary school age were enrolled in secondary school and only 22% of young people completed secondary school (UNESCO, 2021[47]). Malawi has one of the lowest secondary school completion rates in the Southern Africa region.

Since 2017, Malawi has not made any significant progress in reducing poverty. More than 50.0% of the population is living below the national poverty line (World Bank, 2019[45]). People living in rural areas are more likely to be poor (59.5%); for those living in urban areas, the corresponding figure is 17.7%. Significant disparities persist in the rates between rural regions in different areas, with the highest rates in the rural south, followed by the rural north (World Bank, 2019[45]).

Labour market context and outcomes in Peru

In Peru in 2020, nearly six out of ten women and more than seven out of ten men aged 15-64 years were employed. These rates were higher than those found in other Latin American countries and represented increases of 9.4 and 3.7 percentage points when compared with the figures for 2002 (OECD, 2022[48]). The gender gap in labour force participation differed across age groups and education levels. It increased with age, from 10.2 percentage points among 14-24-year-olds to 17.7 percentage points among 25-44-year-olds and 26.7 percentage points among 45-64-year-olds, according to figures for 2018. However, this increasing gap across age groups was only observed in urban areas, whereas in rural areas it remained constant at around 15 percentage points. Although the unemployment rate was low (5.1%), labour underutilisation was also present (12.9%) (ILO, 2022[35]).

Educational attainment levels in Peru have risen significantly since the 1990s, with particularly large gains for women. In 2017, nearly 37.0% of men and 50% of women aged 55-64 years in Peru had less than an upper secondary qualification (OECD, 2022[48]). Among young adults who attended school in early 2020s, these shares dropped to around 15.0% for men and around 21.0% for women. Concurrently, the share of individuals who completed an upper and post-secondary education increased by 19 percentage points among women and 17 percentage points among men. The share of tertiary graduates increased by 5 percentage points for men and 11 points for women in the 25-34 years age group.

Despite the progress made in the quantity of education provided, its quality remains low. While the basic literacy skills of the adult population (i.e. the percentage of the population aged 15 years and older who can, with understanding, both read and write a short simple statement on their everyday life) are at an acceptable level (90%), the foundational skills of 15-year-olds are remarkably poor. Peru ranked at the bottom of the 65 middle and upper-income countries participating in the last round of PISA. PISA measures the cognitive skills of 15-year-olds in the areas of mathematics, reading and science, assessing their competencies when they reach the end of compulsory education (OECD, 2015[49]).

Informal employment is widespread, especially in rural areas. In 2019 in the capital city Lima, around 50% of men and 60% of women workers were informally employed, whereas informality rate stood at 80% in the rest of the country (OECD, 2022[48]). In rural areas, almost all workers are informally employed. The informal employment rate has fluctuated, decreasing by nearly ten percentage points throughout the 2010s, before returning to its original level, close to 70% (World Bank, 2022[50]). Informal employment is overwhelmingly concentrated in small enterprises with low labour productivity (World Bank, 2022[50]), thus hampering total labour productivity in Peru.

Labour market context and outcomes in South Africa

The South African labour market performs quite poorly when compared with other emerging economies, thus contributing to widening income inequality and leading to losses of human capital and growth potential. Unemployment in South Africa is high and persistent when compared with other emerging economies. It stood at 28.8% in 2021, while the employment/population ratio is among the lowest, close to 40% (OECD, 2022[51]). In the same period, among young people, the unemployment rate stood at 57%; in 2019 more than 30% of young people were not in education, employment, or training.

South Africa is an exception when compared with the other three countries that are the subject of this paper; this is due to a generally low incidence of informal employment and a high overall incidence of economic inactivity and unemployment. At 32.0%, the informality rate in South Africa is considerably lower than in peer countries. Although registration of enterprises is high in South Africa, standing at more than 90.0% (World Bank, 2018[52]), the formal employment status of enterprises does not preclude them from hiring labour informally (OECD, 2020[53]). Nevertheless, the most prevalent type of informal employment in South Africa is in subsistence agriculture, mainly among workers with low levels of education and living in

rural areas (OECD, 2020[53]). Among the self-employed, a significant portion of informal activity is due to necessity, when individuals with no alternative source of income cannot afford to remain unemployed (World Bank, 2018[52]).

The labour market is characterised by a pervasive scarcity of skilled workers. The situation is also challenging for future newcomers to the labour market. In 2019, only 5.4% of people aged 18-29 years were enrolled in higher education, compared with 20.5% of this age group in OECD member countries (OECD, 2022[51]). The share of the cohort who studied post-secondary education was only 15.4% in South Africa, whereas in OECD member countries it was 39.0%.

4 Data and methodology to construct variables used in the analysis

Data description

The analysis in this paper is based on the panel data available for four developing and emerging economies: Indonesia, Malawi, Peru and South Africa. Methodologically, all variables were constructed for the analysis in an identical way for all countries, and both statistical and econometric analysis were carried out in an identical way. However, because the sampling techniques and the spans between different waves of panel data within each country were different, the obtained results are not directly comparable across countries. In what follows, we are interested to see whether some of the common trends are discernible from the data collected across these countries.

Indonesia

For Indonesia, we used the Indonesian Family Life Survey (IFLS), a longitudinal survey conducted by the RAND Institute and its partners. The survey has been conducted five times since 1993-94 (IFLS-1), and the latest wave was conducted in 2014-15 (IFLS-5). The sample is representative of 83% of the Indonesian population living in 13 Indonesian provinces.[1] The other 14 (of the then existing 27 provinces) were excluded due to reasons related to cost-effectiveness (RAND Institute, 1993[54]).

For the purpose of this OECD Development Centre study, the three most recent waves of data were used: IFLS-3 (2000), IFLS-4 (2007-08) and IFLS-5 (2014-15). The interval between each wave was 7 years (Table A A.2). Earlier waves of data were not used, because they did not enable computation of the informality status in a consistent way.

Malawi

The Malawi Integrated Household Panel Survey (IHPS) is a longitudinal survey conducted by the Malawi National Statistical Office (NSO) with assistance from the World Bank. The survey sample is representative of population at the national, regional and urban/rural levels.

The Third Integrated Household Survey (IHS3), conducted in 2010, is used as a baseline for the waves conducted in 2013, 2016 and 2019. All four waves of data were used in the analysis of findings presented in this paper. The interval between each wave was 3 years (Table A A.2).

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[1] Four provinces on Sumatra (North Sumatra, West Sumatra, South Sumatra and Lampung), all five of the Javanese provinces (DKI Jakarta, West Java, Central Java, DI Yogyakarta and East Java), and four provinces covering the remaining major island groups (Bali, West Nusa Tenggara, South Kalimantan and South Sulawesi).

Peru

The Peruvian National Household Survey (ENAHO) is an annual survey conducted by the National Institute of Statistics and Informatics (INEI) in Peru. The survey sample is nationally representative, and since 2003, data collection has been continuous (i.e. is collected for each quarter as opposed to once per year). The survey is designed with a rotating panel feature, meaning that a core number of households is resampled in selected waves of the data collection. The ENAHO is also continuously released in panel format, which spans 5 years at a time.

This This OECD Development Centre study uses five waves of data, with a 1-year interval between each wave, spanning 2016-20 (Table A A.2).

South Africa

The National Income Dynamics Study (NIDS) is a national household panel study in South Africa (SALDRU, 2008[55]). The data are collected by the Southern Africa Labour and Development Research Unit (SALDRU) based at the University of Cape Town's School of Economics. NIDS was initiated by, and is supported by, South Africa's Department of Planning, Monitoring and Evaluation (DPME).

The data used in this paper were collected between 2008 and 2017 and are nationally representative. The core survey was repeated with these same household members every 2-3 years, with the latest interview round (or wave) being conducted in 2017.

This OECD Development Centre paper uses four available waves of data. The interval between waves was 2 years (Table A A.2).

Understanding attrition

When working with panel data, it is important to be mindful of data attrition, in other words, to consider the share of individuals who were surveyed in one wave of data collection but not in the following wave. To the extent that the non-surveyed individuals may have different characteristics from the surveyed individuals, a high attrition rate can bias the estimates. This is because the same non-random characteristics that influenced their exclusion from the sample (attrition) may correlate with the outcomes that the researchers are interested in studying, i.e. labour market transitions or incomes.

The four panel datasets used in this paper are unbalanced, meaning that individuals are observed inconsistently from one wave to another, and over the entire period covered by all waves of data collection. Indonesia, Malawi, and South Africa used a "top-up" households approach, adding new households to the new waves of data, whereas Peru used a rotating sample design in order to counteract the effects of panel attrition due to survey dropouts or deaths. As a result, the share of individuals who were interviewed in the first wave and were not interviewed in subsequent waves differs markedly between countries, but also within countries between different waves.

Looking at wave-to-wave attrition rates (Table A A.2), the average wave-to-wave attrition rate ranges from 15.9% in Malawi to 30.6% in Peru. These average attrition rates are lower in the subsamples of the working-age population than they are in the general population. They are quite standard (or even lower) when compared with other panel data available in developing countries (Alderman et al., 2001[56]; Dercon and Shapiro, 2007[57]).

In contrast, the attrition rates over the total time period of each panel dataset are substantial (Table A A.3). At the extreme end, in Peru, the attrition rate reached 99.9% from wave 1 to wave 5. Such a high attrition rate makes it impossible to study individuals over several consecutive time periods. It also precludes us from using standard longitudinal analysis techniques, such as survival or duration analysis. For example,

it is not possible to check, using the data at hand, whether transitions are influenced by a smaller number of intensive movers or by a larger number of infrequent movers; whether those moving from formal employment to informal employment are the same people who moved to formal employment earlier; and how unusual is it for longer-term informal or formal workers to transition to the other state?

For this reason, in what follows, we were working only with the wave-to-wave pooled data. For each country, we took two consecutive waves, and we stacked them over the next two consecutive waves. For example, in Indonesia, we began with individuals observed in both waves 1 and 2, in order to construct wave-to-wave variables (such as change in the labour market status and change in incomes), and we stacked them over individuals observed in waves 2 and 3, in order to get the pooled Indonesian two-period sample. For Malawi, we began with individuals observed in both waves 1 and 2, we stacked them over individuals observed in waves 2 and 3, and then stacked them over individuals observed in waves 3 and 4, in order to obtain a pooled Malawi two-period sample. The rest of the analysis, in both the descriptive part and the regression analysis part, is based on these pooled data. As such, all obtained results are interpreted as taking place between two consecutive waves, with the time period between the waves as outlined in Table A A.2.

Sample description

Because each country had a different number of waves of data collection, and there was a different interval between each wave, we are working with each country separately. Nevertheless, the same principles were applied for the rest of the analysis.

Given that labour market transitions are the subject of this OECD Development Centre study, only working-age individuals (aged 15-16 years) were considered for the analysis.

For each country, two samples of the wave-to-wave pooled data were constructed. The first sample in each country was used for the descriptive analysis of transitions between different labour market statuses. As such, it included employed individuals (both formal and informal), as well as individuals not in employment. This sample was restricted to the individuals with available data on employment status at both the beginning and end of each time period. The total number of observations, per country, is presented in Table A A.2.

The second sample in each country was used in the descriptive analysis of labour income, as well as in the regression analysis linking transitions to labour income dynamics. As such, these samples were restricted to employed individuals. The limitation was necessitated by the fact that the information about labour income was only available for working individuals and not for those not in employment. Consequently, the regression analysis only considered moves between formal and informal employment statuses, disregarding moves into and out of employment. Together with the focus on individual labour income only, this more restricted focus on job-to-job changes also allows abstracting away from other compensatory mechanisms that may affect changes in disposable income, such as unemployment benefits or changes in labour force participation of other household members in response to the individual's job loss (Blundell, Graber and Mogstad, 2015[58]; Bredtmann, Otten and Rulff, 2017[59]; Mankart and Oikonomou, 2016[60]; Mattingly and Smith, 2010[61]; Lundberg, 1985[62]). In each country, this sample was further restricted to individuals with available data on employment status and labour income at both the beginning and end of each time period, as well as to individuals with non-missing data on other socio-economic characteristics, including age, gender, education, civil status, number of household members, status in employment (employee or self-employed), sector of economic activity, and the area where the survey respondents are living (i.e. urban or rural).[2] The total number of observations for this sample is

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[2] Workers included in this sample reported information on their employment status at both the beginning and end of each time period. This means that workers who were close to pre-retirement age, but who remained in employment at the end of the time period, were included. In the first sample (extended to include non-employed individuals), some of the workers moved from formal employment, or moved from informal employment to non-employment, including

presented, for each country, in Table A A.4, in the cell "labour market mobility". The number of observations further varies depending on the regressions' specifications.

Table A A.4 also shows the descriptive statistics of each variable retained for the analysis. For the individuals' socio-economic characteristics, such as age, what is reported are the values at both the beginning and end of each time period. For variables constructed over the time period, such as labour market and income mobility, what is reported are the values between two consecutive waves.

Construction of the key variables used in the analysis

Measuring transitions to and from informal employment

In this paper, we are first interested in understanding the extent of the transitions into informal employment and out of it. Thus, our starting point is to correctly measure informal employment status. The measurement of informal employment is based on the measurement used to construct the OECD Key Indicators of Informality based on Individuals and their Households (KIIbIH) data, as outlined in the (OECD/ILO, 2019[2]) report. It reflects the ILO Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204) and the guidelines in relation to the statistical definition of informal employment adopted by the 17th International Conference of Labour Statisticians in 2003.

As such, informal employment includes contributing family workers, employers and own-account workers, and employees in informal jobs. All contributing family workers are classified as having informal employment, irrespective of whether they work in formal or informal sector enterprises. Employers (with hired workers) and own-account workers (without hired workers) are deemed informal when their economic units belong to the informal sector. Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.). The underlying reasons may be the non-declaration of the jobs or the employees; casual jobs or jobs of a short duration; jobs with hours of work or wages below a specified threshold (e.g. for social security contributions); or lack of application of law and regulation in practice. In the case of own-account workers and employers, the informal employment status of the job is determined by the informal sector nature of the enterprise. The set of operational criteria to determine informality status varies across countries, depending on the information available in household surveys. For examples of criteria used in each country, see Annex A of (OECD/ILO, 2019[2]).

The variable measuring whether a worker is informally employed or not has a dichotomous nature. It is equal to one for informally employed, and zero otherwise. The share of individuals who are informally employed in each country can be seen in the Table A A.4 cell "Informal employment". The shares are relatively small, because they are shown in the full samples that include individuals not in employment.

Workers who are informal in one time period, but who are not informal in the consecutive time period, are considered to have transitioned either into formality or out of employment. Workers who are formal in one time period, but who are not formal in the consecutive time period, are considered to have transitioned either into informality or out of formality.

Measuring income mobility

The existing literature considers a variety of ways to measure individual incomes. These include direct survey questions about individual labour income, as well as derived measures of individual income from

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retirement. Data on these workers were automatically excluded from the second (limited) sample that was used in the regression analysis.

all sources computed by dividing household disposable income by the number of household members by applying equivalence scales.

To the extent that we are interested in studying the effects of individual transitions between formal and informal jobs, in this paper we only focused on changes in individual labour income. Moreover, using this measure allows abstracting away from individual income changes induced by the income changes of other household members due to changes in labour market statuses of spouses and parents, health-related outcomes of household members, social transfers, remittances, or inheritances.

The existing literature also proposes different approaches to measuring income changes (i.e. income mobility) (for an overview, see (OECD, 2018[13])). Income mobility can be intergenerational (between parents, children, and grandchildren), and intragenerational (considering changes for the same individual over time). Income mobility can also be absolute and relative. Absolute mobility refers to changes in the individual's income as compared to oneself or to the previous generation. Relative mobility refers to changes in the individual's income when compared with the income of others in the same generational cohort; it reflects one's own changes in the position in the income distribution. In this paper, we are interested in measuring intragenerational absolute and relative mobility.

One of the ways to measure *absolute labour income mobility* is to examine income gains and income losses. An income gain/loss can be large if it represents a 20% or more increase/decrease in income when compared with income in the previous time period (this threshold is rather arbitrary, but has been used in previous analyses, such as (OECD, 2018[13])). Conversely, an income gain/loss can be small if it represents less than a 20% increase/decrease in income when compared with income in the previous time period. These are the definitions retained throughout the paper. Specifically, we created four dichotomous variables: equal to one for a large income gain; equal to one for a large income loss; equal to one for a small income gain; equal to one for a small income loss; and zero otherwise. These variables were used for both descriptive statistics and the regression analysis.

In turn, *relative labour income mobility* can be measured by examining positional changes in income distribution for each individual between two consecutive periods. Upward mobility takes place when an individual moves to an upper income quantile. Conversely, downward mobility takes place when an individual moves to a lower income quantile. To reflect this, we created two corresponding dichotomous variables: one for upward mobility (equal to one if an individual exits the current income decile to move to any higher-level decile, and zero otherwise); one for downward mobility (equal to one if an individual exits the current income decile to move to any lower-level decile, and zero otherwise). We considered ten quantiles in the income distributions.

In addition, from a policy perspective, it may be worthwhile to separately consider persistence in remaining in the bottom income quantile (sticky floors), as well as persistence in remaining in the top quantile of the income distribution (sticky ceiling). We created the following six dichotomous variables: persistence of staying in the bottom quantile; persistence of staying in the top quantile; but also exiting a bottom quantile; entering a bottom quantile; exiting the top quantile; entering the top quantile.

Measuring life events

After labour market transitions, life events are the major drivers of household income dynamics (for examples, see (Neilson et al., 2008[63]; Jenkins, 2011[64]; DiPrete and McManus, 2000[65])), and especially of entry into poverty (Polin and Raitano, 2014[66]).

Available data enabled us to analyse the impact of two types of life events, the construction of which can be done in the same way across all four countries. The first type of life event is the birth of a child. We created a variable equal to one if there was a birth in the household between two consecutive time periods, and zero otherwise. The second type of life event is separation. We constructed a variable equal to one if there was a separation, divorce, or death of a partner or spouse for the working individual between two

consecutive time periods. In Section 5, we use these variables to compare their effect on individual labour mobility with the effect of labour market transitions.

5 Descriptive evidence on labour market and income mobility

Labour market mobility (transitions between states)

We began the analysis by examining the extent to which transitions to and from informal employment actually occur. For this, we used transition matrices that show the magnitude and frequency of changes in job status within a population over time. We constructed these matrices by deeming that individuals belonged to one employment status (S_t) at the beginning of a studied time period, or wave (year t), and to one (same of different) employment status (S_{t+n}) at the end of the next wave (period $t+1$). As explained in Section 4, we only examined transitions between two consecutive waves, pooling data for all spells for each country. The transition matrix allows us to compute the probability that a worker belongs to employment state b in period $t+n$, conditional on being employed in state a in period t:

$$P_{ab} = \Pr\left(S_{t+n} = b \mid S_t = a\right) \tag{1}$$

The sum of the elements of each row of the matrix is equal to one, and each cell in the matrix represents the probability that a worker was moving from one state to another. In what follows, these transition probabilities are represented visually by Sankey diagrams, which depict the transition of individuals between labour market statuses within a country, across two waves of a panel dataset. Rather than reporting wave-to-wave transitions, we show the averages across all spells, by country.

In the next step of the analysis process, we calculated the number of labour market transitions for the total working-age population. These provided a surface-level overview of the number of individuals transitioning between three states: *informality*, *formality*, and *not in employment*, with 'not in employment' encompassing economically inactive and unemployed individuals. Figure 5.1 Panels A to D inclusive depict these labour market transitions by country: Indonesia, Malawi, Peru and South Africa.

Figure 5.1 shows that formal employment remained limited, and was enjoyed in Indonesia, Malawi and Peru by the smallest number of workers. In South Africa, the size of formal and informal employment groups was relatively similar. The data show that, in all countries, the stock of formal employment has slightly increased over time, which is consistent with the general patterns observed in the four countries, as discussed in Section 3.[3]

With regard to labour market transitions, three findings emerged. First, the proportion of workers in each country and each state remains relatively similar at t and $t+1$ (despite the fact that the spells between each wave were different across countries). In other words, the three states were relatively "stable"; immobility appeared to be the norm, and the number of transitions was quite limited.

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[3] Note, however, that this figure reflects the averages observed between two consecutive waves over several time periods. Therefore, what is reported is the change in average formality and informality stocks between all available waves.

Figure 5.1. Basic labour market transitions

A. Indonesia
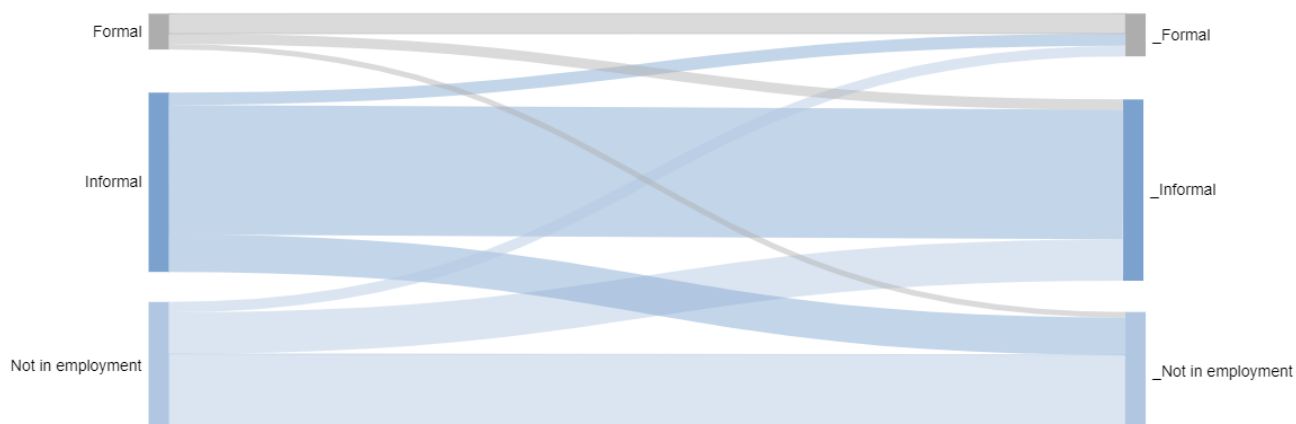
B. Malawi
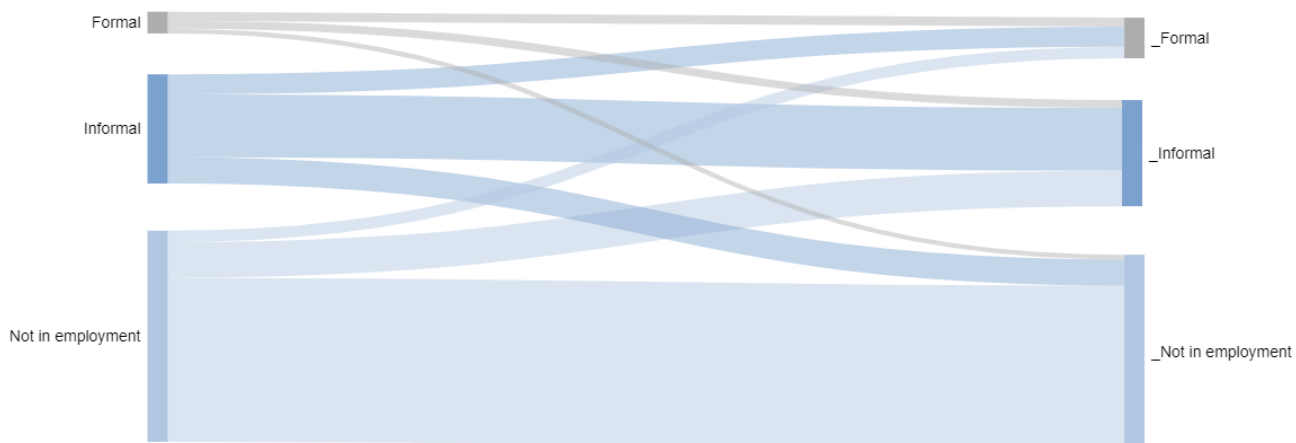
C. Peru
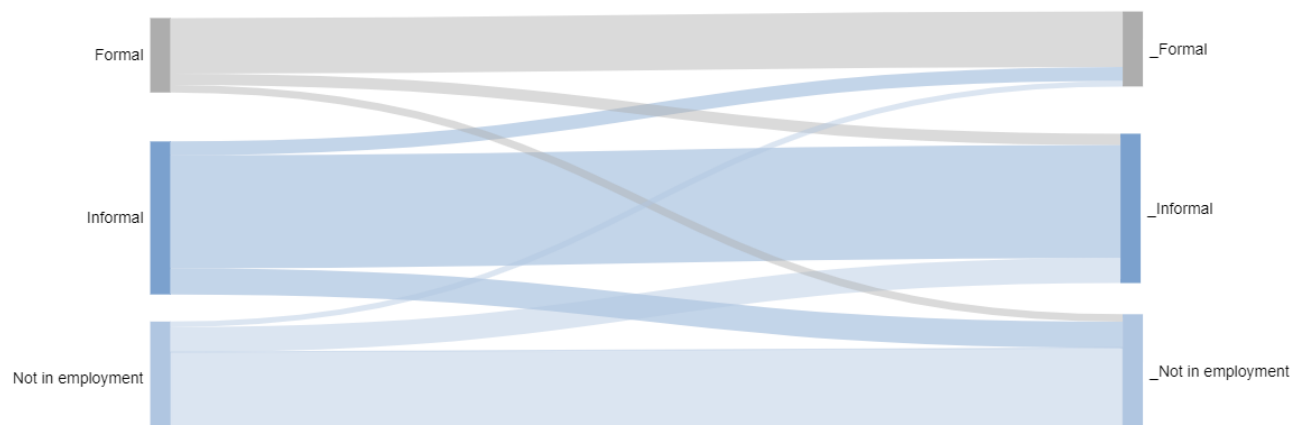
D. South Africa
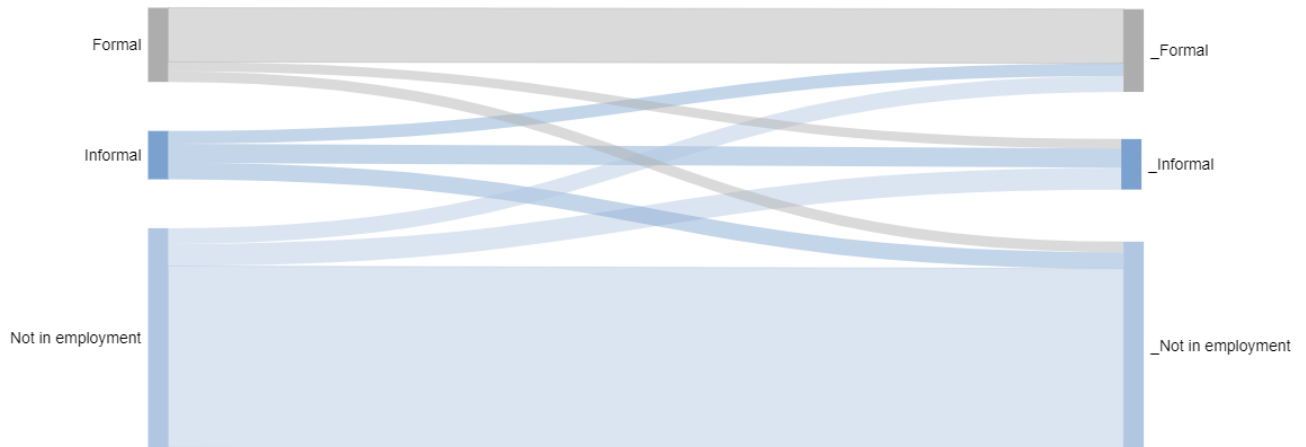
Note: Estimates were generated for transitions between two consecutive time periods (for example, 2000-07 and 2007-14 for Indonesia); reported is the average for all spells by country (i.e. the average of two spells in Indonesia, three spells in Malawi and South Africa, four spells in Peru).

Source: Authors' calculations based on based on data from the RAND Institute (2000[67]; 2007[68]; 2015[69]), Indonesian Family Life Survey 2000, 2007, and 2014; Malawi National Statistical Office (2010[70]; 2013[71]; 2016[72]; 2019[73]), Malawi Integrated Household Survey 2010, 2013, 2016, and 2019; Peru National Statistical Office (2020[74]), Encuesta Nacional de Hogares Panel 2016-2017-2018-2019-2020; and Southern Africa Labour and Development Research Unit (SALDRU) (2008[55]; 2010[75]; 2012[76]; 2014[77]; 2016[78]), National Income Dynamics Study 2008, 2010, 2012, 2014, 2016.

In detail, the majority of individuals (more than 50.0%) were not observed transitioning to another states between time periods. In Indonesia, 55.9% of formal workers in time t remained formal in time $t + 1$; 72.3% of informal workers remained in informal jobs in time $t + 1$; 59.0% of individuals not in employment remained in non-employment in $t + 1$. In Peru, 74.7% of formal workers in time t remained in formal employment in time $t + 1$; 73.9% of informal workers remained in informal jobs in time $t + 1$; 72.9% of individuals not in employment remained in non-employment in $t + 1$. In Malawi, 57.5% of informal workers remained in informal jobs in time $t + 1$; 77.7% of individuals not in employment remained in non-employment in $t + 1$. In South Africa, 73% of formal workers in time t remained in formal employment in time $t + 1$; 82.8% of individuals not in employment remained in non-employment in $t + 1$. The two notable exceptions were formal workers in Malawi – only 41.9% of these workers in time t remained in formal employment in time $t + 1$; and informal workers in South Africa – only 39.7% of these workers remained in informal jobs in time $t + 1$.

The second finding is that a modest number of transitions actually took place in all possible directions. In other words, not only can workers move out of informality, they can also slip back into informality from formal jobs.

However, and this is the third finding, the largest number of transitions took place between informal jobs and non-employment. This pattern was strongest in Indonesia and Peru. In Indonesia, 44.0% of all transitioning individuals moved to informality, while 36.6% moved to non-employment. In Peru, 40.7% of all transitioning individuals moved to informality, while 37.7% moved to non-employment.

In contrast, moving to formal employment was the least likely outcome. Again, this pattern was strongest in Indonesia and Peru, and weakest in Malawi and South Africa. In Indonesia, 19.4% of individuals in informal and non-employment (in period t) transitioned to formal jobs in $t + 1$. In Peru, 21.7% of individuals in informal and non-employment (in period t) transitioned to formal jobs in $t + 1$. In Malawi and South Africa, 29.8% and 32.9% of individuals in informal and non-employment (in period t) transitioned to formal jobs in $t + 1$. While these flows may seem quite large, the flows out of formality that took place at the same

time precluded the accumulation of sizeable stocks of formal jobs in these countries, thus explaining why these countries struggle with the sustainable formalisation agenda.

Transitions between different labour market stages may differ between workers with different socio-economic characteristics. This, in turn, may affect the income mobility patterns of these workers. In the regression analysis that follows, we analyse whether transitions of workers with different gender, age and education levels result in different income mobility outcomes. In this descriptive section, by way of gender example, we can infer that examining the mobility patterns of workers with different socio-economic characteristics is indeed justified.[4]

Figure 5.2 to Figure 5.5 inclusive present the descriptive statistics of this disaggregated analysis separately for men and women. They suggest that, first, men and women are unequal at the beginning of any transition period. In all four countries, there was a greater share of women not in employment than of men not in employment. In three of the four countries, when women worked, they were less likely than men to work in formal employment. In the Indonesian sample, on average, 71% of men and 37% of women were in informal employment at the beginning of any particular time period; the comparable figures were 50% of men and 46% of women in Peru, and 53% of men and 50% of women in Malawi. In the South Africa sample, 15% of men and 16% of women were in informal employment.

With regard to labour market transitions, in all four countries studied, a greater share of women than men changed their labour market status over a given time period. More men than women remained "immobile". However, the most likely transitions for women were between informal work and economic inactivity, in both directions, rather than to formal jobs. In particular, in all of the four countries studied, and over any given time period, women had lower chances to move to formal jobs as compared to men, from any other status (whether informal job or inactivity). At the same time, women had greater chances to move to inactivity as compared to men, from any other status. When women moved to formal employment, they were more likely to make this transition from informal employment than from economic inactivity. This suggests that, even if these possibilities are limited, some informal jobs can represent a stepping stone into formal employment for women. For men, this pattern was observed in South Africa, but not in the other three countries. Finally, when women moved out of informal employment, they were more likely to move to economic inactivity than to a formal job. In Malawi, Peru, and South Africa, this pattern did not hold true for men, who were equally likely to move from informal employment to economic inactivity, or to move to formal employment.

Figure 5.2. Labour market transitions in Indonesia, by gender

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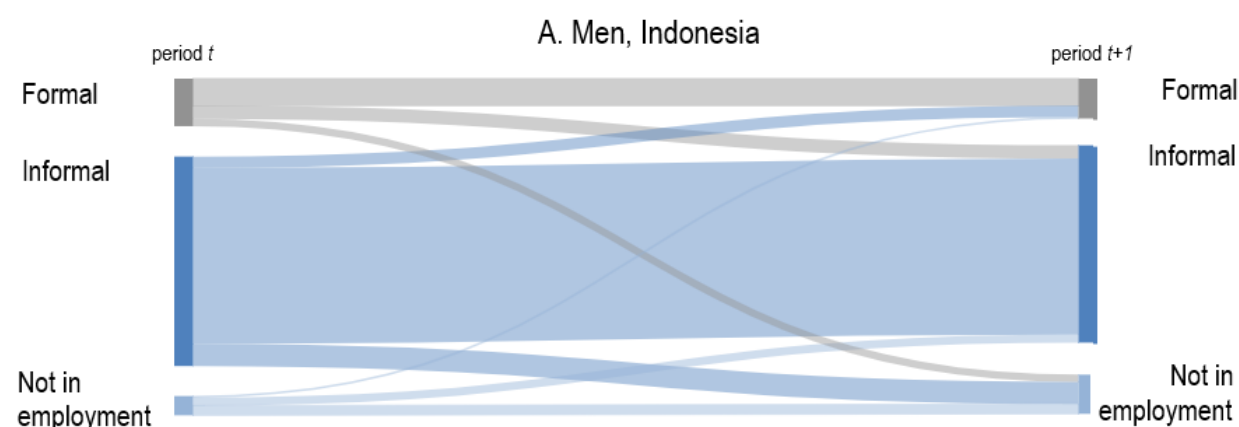
[4] Descriptive evidence on labour market transitions by age and by education level is not presented for space reasons; it is available on request.

B. Women, Indonesia
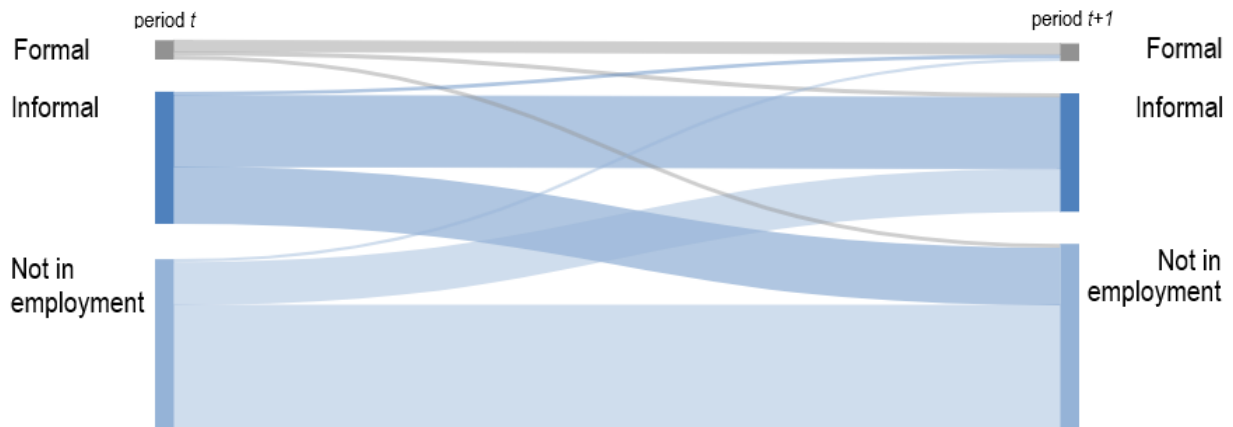
Note: Pooled labour market transitions by gender. Data refer to 7-year time spells for Indonesia (three waves covering 2000-14).
Source: Authors' calculations are based on data from the RAND Institute (2000[67]; 2007[68]; 2015[69]), and the *Indonesian Family Life Survey 2000, 2007,* and *2014.*

Figure 5.3. Labour market transitions in Malawi, by gender

A. Men, Malawi
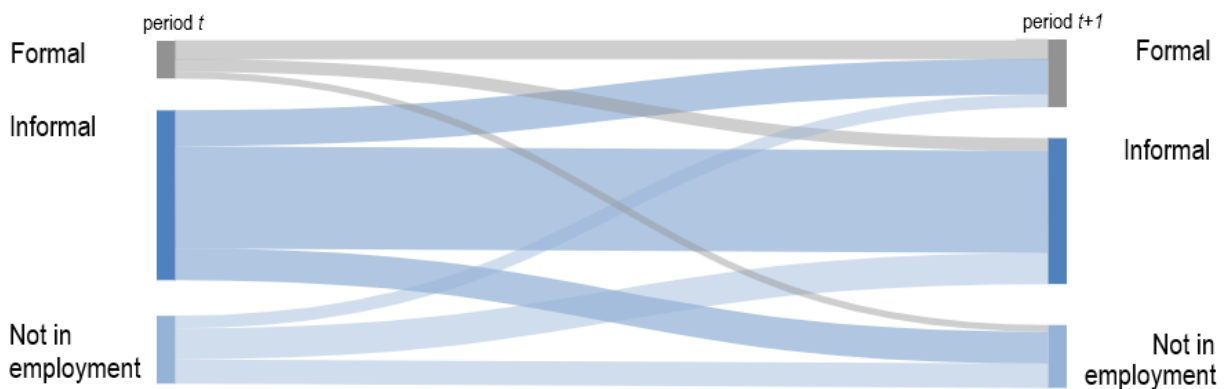
B. Women, Malawi
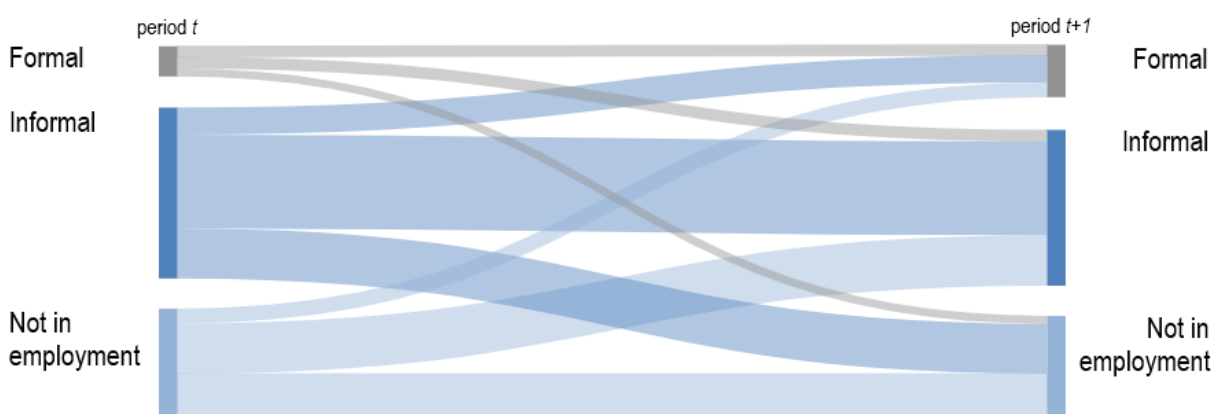
Note: Pooled labour market transitions by gender. Data refer to 3-year time spells for Malawi (four waves covering 2010-19).
Source: Authors' calculations are based on data from the Malawi National Statistical Office (2010[70]; 2013[71]; 2016[72]; 2019[73]), and the *Malawi Integrated Household Survey 2010, 2013, 2016,* and *2019.*

Figure 5.4. Labour market transitions in Peru, by gender

A. Men, Peru

B. Women, Peru
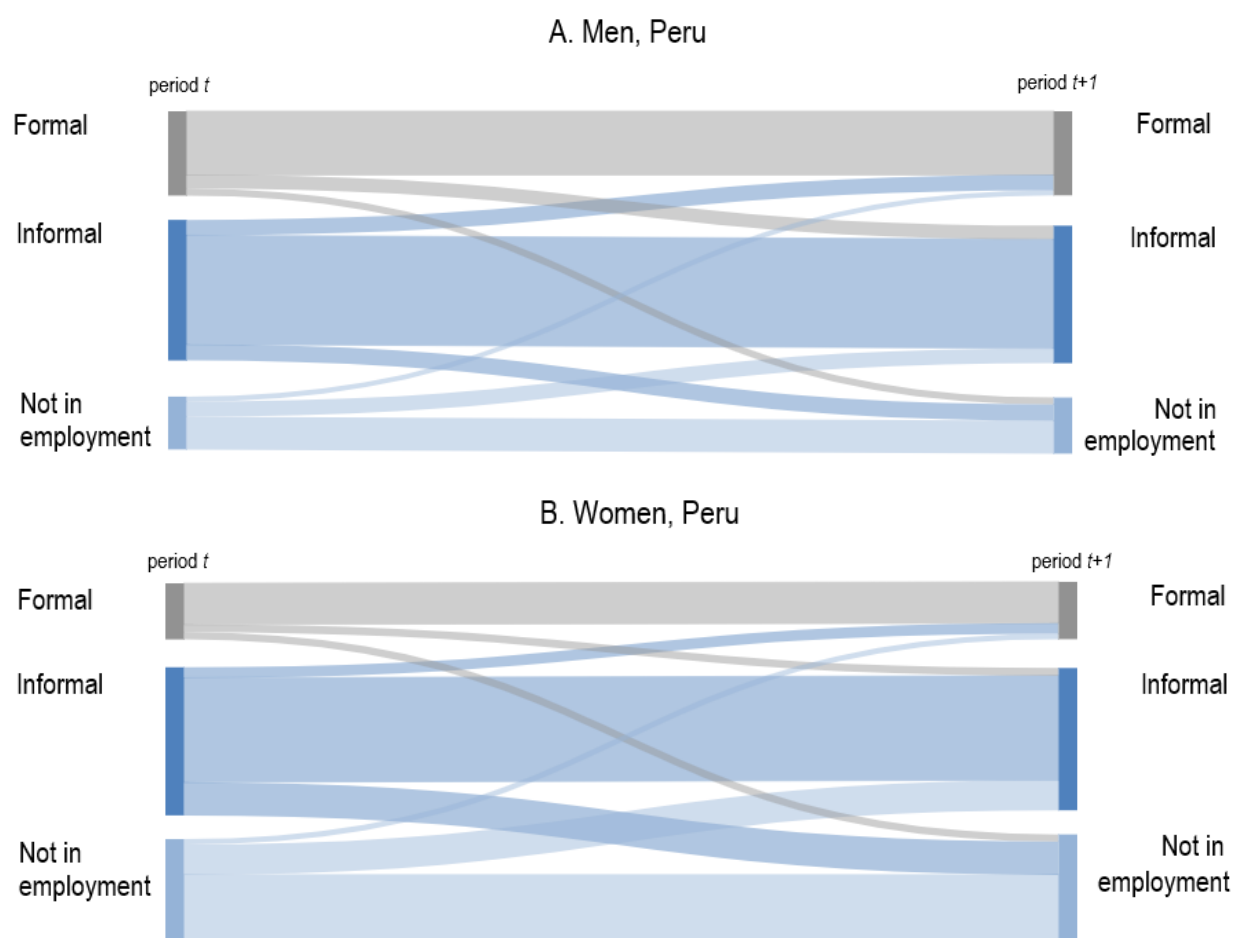
Note: Pooled labour market transitions by gender. Data refer to 1-year time spells for Peru (five waves covering 2016-20).
Source: Authors' calculations are based on data from the Peru National Statistical Office (2020[74]), *Encuesta Nacional de Hogares (ENAHO) Panel 2016-2017-2018-2019-2020*.

Figure 5.5. Labour market transitions in South Africa, by gender

A. Men, South Africa

B. Women, South Africa
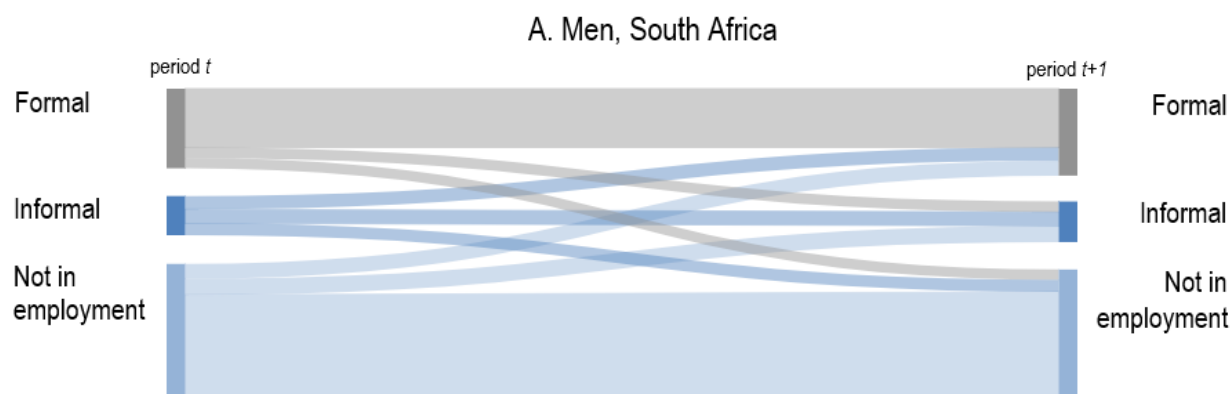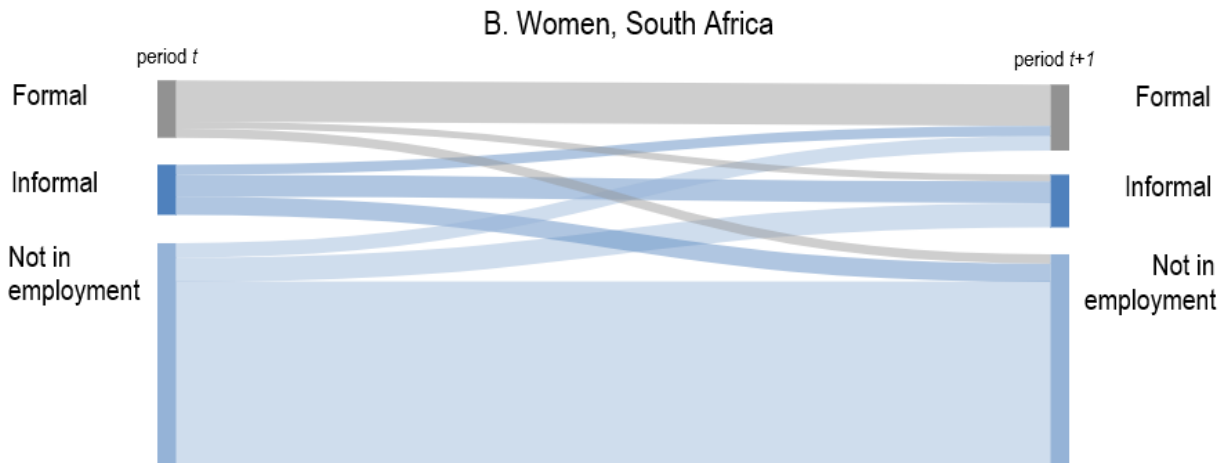
Note: Pooled labour market transitions by gender. Data refer to 2-year time spells for South Africa (five waves covering 2008-16).

Source: Authors' calculations are based on data from the Southern Africa Labour and Development Research Unit (SALDRU) (2008[55]; 2010[75]; 2012[76]; 2014[77]; 2016[78]), *National Income Dynamics Study (NIDS) 2008, 2010, 2012, 2014,* and *2016.*

Income mobility

When transitions between different labour market statuses are taking place, what are the effects on a worker's labour income? To answer this question, we switch to the sample that is restricted to employed individuals, the restriction being necessitated by the fact that labour income is only relevant to working individuals and not to those not in employment.

Figure 5.6 shows the percentage of workers experiencing different types of absolute income mobility, in four countries from one time period to another, depending on whether they: (1) remained in informal employment; (2) remained in formal employment; (3) moved to formal employment (from informal employment); or (4) moved to informal employment (from formal employment). Five types of absolute income mobility are possible: (1) experiencing a large income gain; (2) a small income gain; (3) no change in income; (4) a small income loss; or (5) a large income loss (as defined in Section 4).

Figure 5.6. Transitions between labour market states and absolute income mobility: descriptive evidence
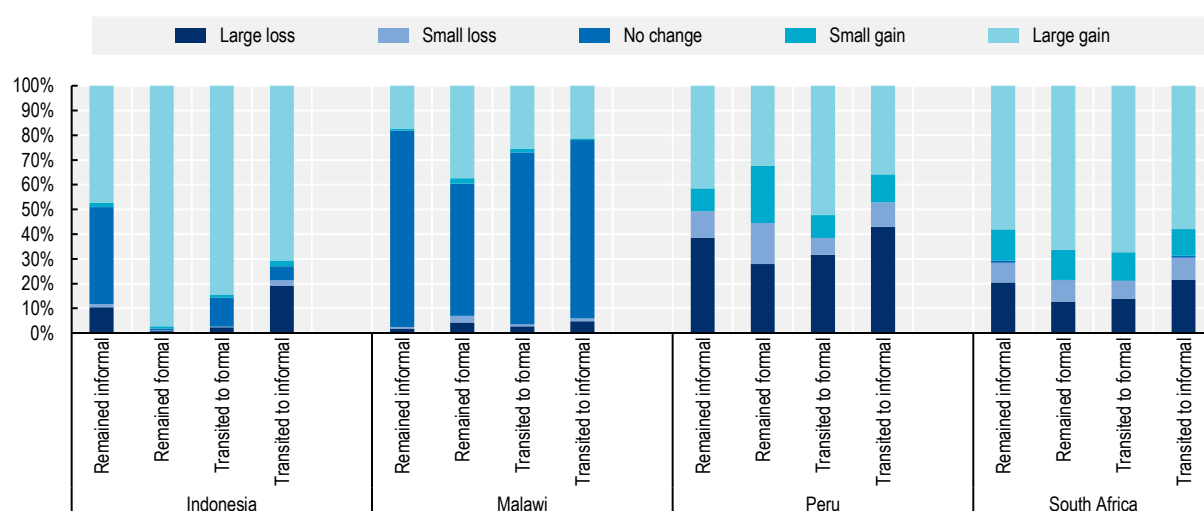
Source: Authors' calculations.

Even if data across countries are not directly comparable, the following patterns can be observed in Figure 5.6.

First, among those workers who were in formal employment at the beginning of the time period, and who remained in formal employment in the next time period, we observe the highest percentage of workers who experienced a large income gain between the two time periods. as opposed to workers experiencing other scenarios of labour market transitions. This pattern holds true for Indonesia and Malawi.

Second, in Peru and South Africa, workers who moved from informal to formal employment are the group in which we find the highest percentage of workers experiencing a large income gain. Indonesia and Malawi had the second highest percentage of such workers experiencing a large income gain. Taken together, these results suggest that becoming formal, or remaining formal, is the best strategy to adopt if they wish to improve absolute income over time. Workers who remained informal or became informal could experience large income gains, but the share of such workers was considerably lower than in other labour market transition scenarios. Finally, in the group of workers who transitioned from formal to informal state, there is also the greatest share of those who experienced a large income loss, as compared to other labour market transition scenarios. Without a doubt, informal earnings did play a role in reducing poverty when the alternative was no earnings at all, but these earnings, on aggregate, were clearly lower when compared with earnings in formal employment.

These patterns are crystallised even further when we examine relative income mobility, and in particular the possibility of remaining in the top income decile, moving up at least one income decile, experiencing no change in income decile, moving down at least one income decile, or remaining in the bottom income decile[5] (Figure 5.7).

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[5] In the regression analysis, we also examined the options of exiting the bottom income decile and entering the top income decile. This descriptive evidence is not presented graphically for space reasons. It is available on request.

Figure 5.7. Transitions between labour market states and relative income mobility: descriptive evidence
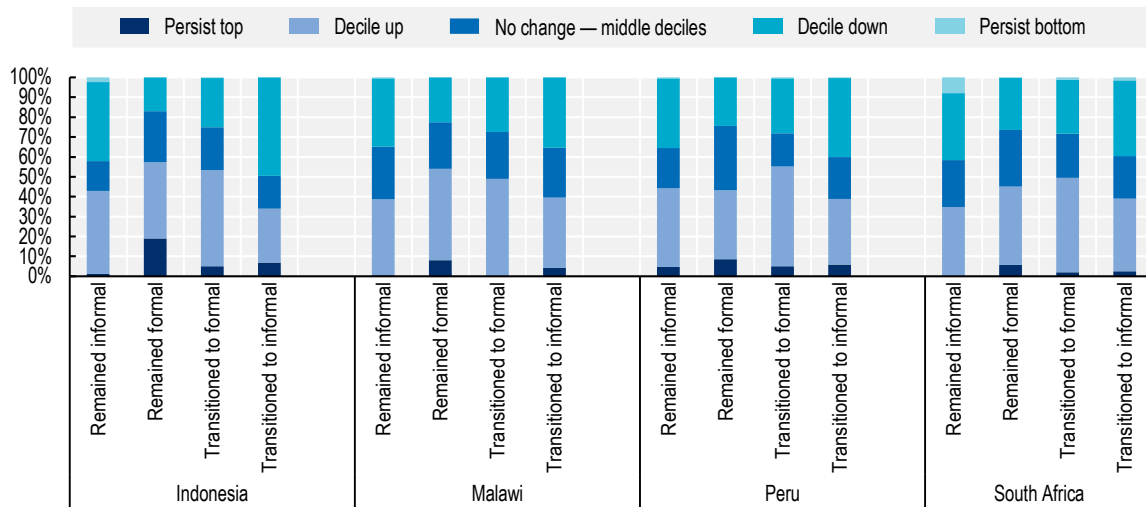
Source: Authors' calculations.

Figure 5.7 presents three facts that hold true for each of the four countries we analysed. First, the largest share of workers who moved up at least one income decile from one time period to the next are found in the group of workers who transitioned from informal to formal employment. Second, the largest share of workers whose income persisted in the top quantile of the income distribution (workers who experienced sticky ceilings) is found among workers who were in formal employment at the beginning of a particular time period and remained in formal employment. Finally, the largest share of workers whose incomes persisted in the bottom quantile of the income distribution (those who experienced sticky floors) is found in the group of workers who were in informal employment and remained in informal employment.

In Section 6, we examine whether these descriptive findings are also confirmed in the regression analysis, which controls for a range of individual socio-economic characteristics. We also push this analysis further by trying to understand whether the gains and the losses accrue to all workers in a similar way and whether other life events such as a birth, separation, or death of a partner or spouse affect labour income in a way that is comparable to the effects of labour market transitions.

6 Linkages between labour market and labour mobility: Results of the regression analysis

Transitions to and from formal employment and absolute income mobility

To formally test the linkages between labour market and income transitions, we began by estimating a series of equations in which the dependent variable *IncChange$_{ij}$* is one of the following: a dichotomous variable equal to one if, from one wave to another, an individual experienced a large income gain, or a large income loss, or a small income gain, or a small income loss; and zero otherwise:

$$IncChange_{ij} \ = \ \alpha_{ij} + \ \beta 1_i ToFormal_i \ + \ \beta 2_i \ X_i \ + \ T_j \ + \ \varepsilon_{ij} \qquad (2)$$

In these regressions, the sample is restricted to individuals who were in informal employment at the beginning of the time period, and who continued to be employed in the following time period (informally or formally). The independent variable of interest is a dichotomous variable, $ToFormal_i$. It is equal to one for those who transitioned from informal to formal status from one wave to another, and zero otherwise. In other words, the benchmark is the individuals who remained in their previous, informal, status. In addition, we controlled for X_i – a set of individual socio-economic characteristics that include age, gender, education, number of household members, civil status, status in employment (employee or self-employed), sector of economic activity, and the area where the survey respondents are living (i.e. urban or rural). These characteristics are measured at the beginning of each wave. As we pool data from several waves, T_j is a set of wave-to-wave fixed effects, and ε_{ij} is the error term.

Given the dichotomous nature of the dependent variables, the chosen method of estimation was logistic regression. Model (2) was estimated separately for each dependent variable. The obtained results provided the odds ratios of experiencing an income change as a linear function of moving to formal employment (as opposed to remaining in informal employment) and of individual characteristics. The data at hand did not contain wave-to-wave weights. In their absence, we used the longitudinal weights for the beginning of each time period for estimating these regressions (Alves and Martins, 2012[79]).

In addition, we were interested in seeing whether the opposite is true – i.e. whether informalisation is associated with a labour income loss. A positive answer to this question would not only suggest that informal jobs are of worse quality than that of formal jobs, but could also be taken as evidence that informalisation is an involuntary phenomenon (for an overview of the debate on whether informality is a choice or a suboptimal constrained outcome, see, for example (Perry et al., 2010[80]). Knowing whether informality is the result of a choice or the result of exclusion from regulations and economic opportunities is important, as it would trigger different policy responses to address informality (OECD/ILO, 2019[2]).

To test this, we changed the sample and focused on those individuals who were in a formal job at the beginning of a given time period, and who continued to be employed (formally or informally) in the following time period. We estimated a series of equations, similar to (2), in which the dependent variable $IncChange_{ij}$ was one of the following: a dichotomous variable equal to one if, from one wave to another, an individual experienced a large income gain, or a large income loss, or a small income gain, or a small income loss; and zero otherwise.

$$IncChange_{ij} = \alpha_{ij} + \beta_{2i}ToInformal_i + \beta_{3i} X_i + T_j + \varepsilon_{ij} \qquad (3)$$

The main difference between model (3) and model (2) is that, in addition to a different sample, the key variable of interest was now $ToInformal_i$. It was equal to one for those who transitioned from formal to informal status over the time period, and zero otherwise. All other controls, as well as the estimation method, remained the same.

Estimation results of models (2) and (3) are presented separately for each country with available data. Table 6.1 to Table 6.4 inclusive show the results for Indonesia, Malawi, Peru, and South Africa. They report the odds ratios of experiencing the outcome, rather than the estimation coefficients. The odds ratios are the likelihood that an event will occur, rather than it will not occur, if the condition measured by the independent variable (in our case, transitions between labour market states), is met. As such, they are always positive. Odds ratios greater than one indicate that the event ($IncChange_{ij}$) is more likely to occur than not to occur. Odds ratios below one indicate that the event is less likely to occur.[6]

Table 6.1. Absolute income mobility: Indonesia

Variables	(1) Small loss	(2) Large loss	(3) Small gain	(4) Large gain	(5) Small loss	(6) Large loss	(7) Small gain	(8) Large gain
ToFormal	0.193	0.139***	0.261*	4.584***				
	(0.197)	(0.064)	(0.192)	(0.762)				
ToInformal					4.586*	26.745***	3.042**	0.075***
					(3.936)	(11.816)	(1.724)	(0.020)
Number of observations	5 625	5 625	5 625	5 625	1 074	1 074	1 074	1 074
Pseudo R-squared	0.044	0.058	0.040	0.133	0.341	0.261	0.050	0.262

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at p<0.01, p<0.05 and p<0.1, respectively.
Source: Authors' calculations based on country-specific household data.

The results in these tables show that in Indonesia, Peru and South Africa (see columns 4), transitions from informal employment to formal employment result in large income gains (more than a 20% increase in

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[6] Statistically, the odds ratio is the probability of the event occurring divided by the probability of the event not occurring. It indicates how likely an event is to occur relative to it not occurring. To convert from odds ratio to a probability, one needs to divide the odds ratio by one plus the odds ratio. For example, as shown in Table 5.1, the odds ratio of experiencing a large income gain in the case of transitioning to formality is equal to 4.58. This is the same as saying that the probability of experiencing a large income gain is 0.82 (out of 1), which is quite a likely event. In contrast, the odds ratio of experiencing a small income loss is 0.19. This is the same as saying that the probability is 0.16 (out of 1), which means that the event is unlikely to occur.

income when compared with income in the previous time period). The results are insignificant for Malawi. Moreover, in Indonesia, Peru and South Africa, it is significantly unlikely that transitions from formal employment to informal employment could lead to income losses (see columns 2).

In contrast, in Indonesia, Peru, and South Africa (see column 6), transitions from formal employment to informal employment are associated with large income losses (more than a 20% decrease in income when compared with income in the previous time period). The results are again insignificant for Malawi. In Indonesia, some small gains are also possible; however, the odds of such gains are substantially lower than the odds of losses.

Table 6.2. Absolute income mobility: Malawi

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	Small loss	Large loss	Small gain	Large gain	Small loss	Large loss	Small gain	Large gain
ToFormal	1.231	0.844	1.122	0.791				
	(0.791)	(0.304)	(0.585)	(0.135)				
ToInformal					1.358	1.134	0.766	Not enough observations
					(0.784)	(1.660)	(0.241)	Not enough observations
Number of observations	1 510	1 990	1 937		318	91	354	
Pseudo R-squared	0.136	0.233	0.125		0.129	0.209	0.329	

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at p<0.01, p<0.05 and p<0.1, respectively.
Source: Authors' calculations based on country-specific household data.

Table 6.3. Absolute income mobility: Peru

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	Small loss	Large loss	Small gain	Large gain	Small loss	Large loss	Small gain	Large gain
ToFormal	0.626**	0.742***	1.001	1.516***				
	(0.122)	(0.079)	(0.172)	(0.152)				
ToInformal					0.592***	1.740***	0.522***	1.072
					(0.105)	(0.199)	(0.088)	(0.125)
Number of observations	6 457	6 459	6 457	6 459	2 585	2 585	2 585	2 585
Pseudo R-squared	0.005	0.003	0.0031	0.005	0.011	0.026	0.036	0.005

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at p<0.01, p<0.05 and p<0.1, respectively.
Source: Authors' calculations based on country-specific household data.

Table 6.4. Absolute income mobility: South Africa

Variables	(1) Small loss	(2) Large loss	(3) Small gain	(4) Large gain	(5) Small loss	(6) Large loss	(7) Small gain	(8) Large gain
ToFormal	0.940	0.565***	0.969	1.534***				
	(0.135)	(0.058)	(0.113)	(0.121)				
ToInformal					1.067	2.213***	0.903	0.593***
					(0.114)	(0.169)	(0.087)	(0.037)
Number of observations	3 112	3 112	3 112	3 112	7 291	7 291	7 291	7 291
Pseudo R-squared	0.013	0.019	0.009	0.012	0.010	0.024	0.003	0.013

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at p<0.01, p<0.05 and p<0.1, respectively.
Source: Authors' calculations based on country-specific household data.

Transitions to and from formal employment and relative income mobility

As a next step, we were also interested in testing whether transitions to and from formal employment affect the relative income position of workers. For this, models (2) and (3) were re-estimated, but the dependent variables were modified and included (one at a time), dichotomous variables equal to one if:

- there had been any upward mobility (i.e. the survey respondents had moved up at least one income decile), and zero otherwise
- there had been any downward mobility (i.e. the survey respondents had moved down at least one income decile), and zero otherwise
- the survey respondents had exited the bottom income quantile, and zero otherwise (for workers moving to formal employment)
- the survey respondents had exited the top income quantile, and zero otherwise (for workers moving to informal employment)
- the survey respondents had entered the bottom income quantile, and zero otherwise (for workers moving to informal employment)
- the survey respondents had entered the top income quantile, and zero otherwise (for workers moving to formal employment)
- the survey respondents had persisted in remaining in the bottom income quantile (sticky floor), and zero otherwise
- the survey respondents had persisted in remaining in the top income quantile (sticky ceiling), and zero otherwise.

As before, the chosen method of estimation was logistic regression. A set of individual socio-economic characteristics and wave-to-wave fixed effects were controlled for. Longitudinal weights for the beginning of each time period were applied. The results of these estimations are reported in Table 6.5 to Table 6.8 inclusive.

Table 6.5. Relative income mobility: Indonesia

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables	Decile up	Decile down	Exit bottom	Enter top	Persist bottom	Persist top	Decile up	Decile down	Enter bottom	Exit top	Persist bottom	Persist top
ToFormal	1.145	0.545***	0.710	0.374	0.660	1.945**						
	(0.171)	(0.094)	(0.244)	(0.311)	(0.670)	(0.596)						
ToInformal							0.530***	4.481***	No obs	1.471	No obs	0.278***
							(0.097)	(0.771)	No obs	(0.373)	No obs	(0.087)
Number of observations	4 725	4 725	4 725	4 725	4 052	4 445	883	883		894		894
Pseudo R-squared	0.014	0.020	0.031	0.109	0.050	0.197	0.053	0.117		0.101		0.178

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression.
Source: Authors' calculations based on country-specific household data.

Table 6.6. Relative income mobility: Malawi

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variables	Decile up	Decile down	Exit bottom	Enter top	Persist bottom	Persist top	Decile up	Decile down	Enter bottom	Exit top	Persist bottom	Persist top
ToFormal	1.994***	0.662	1.250	0.262*	No obs	4.078*						
	(0.518)	(0.177)	(0.642)	(0.196)	No obs	(3.189)						
ToInformal							0.477	0.970	0.191	0.579	No obs	1.299
							(0.232)	(0.534)	(0.205)	(0.589)	No obs	(1.002)
Number of observations	462	462	1 824	1 870		1 745	135	135	130	151		52
Pseudo R-squared	0.072	0.042	0.115	0.354		0.549	0.169	0.122	0.194	0.348		0.145

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression.
Source: Authors' calculations based on country-specific household data.

Table 6.7. Relative income mobility: Peru

Variables	(1) Decile up	(2) Decile down	(3) Exit bottom	(4) Enter top	(5) Persist bottom	(6) Persist top	(7) Decile up	(8) Decile down	(9) Enter bottom	(10) Exit top	(11) Persist bottom	(12) Persist top
ToFormal	1.633***	0.700**	2.788***	1.925**	0.431	1.203						
	(0.218)	(0.106)	(0.937)	(0.245)	(0.344)	(0.391)						
ToInformal							0.759*	2.071***	3.083**	1.139	No obs	0.909
							(0.124)	(0.334)	(1.462)	(0.325)	No obs	(0.270)
Number of observations	6 459	6 459	6 457	6 457	6 457	6 457	2 585	2 585	2 535	2 585		2 535
Pseudo R-squared	0.007	0.005	0.051	0.032	0.065	0.020	0.009	0.023	0.034	0.021		0.056

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression.
Source: Authors' calculations based on country-specific household data.

Table 6.8. Relative income mobility: South Africa

Variables	(1) Decile up	(2) Decile down	(3) Exit bottom	(4) Enter top	(5) Persist bottom	(6) Persist top	(7) Decile up	(8) Decile down	(9) Enter bottom	(10) Exit top	(11) Persist bottom	(12) Persist top
ToFormal	1.585*	0.654**	2.315**	2.423***	0.129**	13.612**						
	(0.194)	(0.087)	(0.082)	(0.844)	(0.044)	(2.463)						
ToInformal							0.772*	2.140**	2.885*	1.308	20.653**	0.574
							(0.083)	(0.227)	(0.570)	(0.350)	(12.230)	(0.154)
Number of observations	2 770	2 770	2 711	2 780	2 711	2 165	6 363	6 363	6 107	6 375	5 501	6 375
Pseudo R-squared	0.024	0.025	0.074	0.255	0.224	0.588	0.013	0.030	0.035	0.052	0.317	0.268

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression.
Source: Authors' calculations based on country-specific household data.

The estimation results in Table 6.5 to Table 6.8 inclusive show that in Malawi, Peru, and South Africa (see column 1 in the respective country tables), transitions from informal employment to formal employment are associated with movement to a higher income decile. Conversely, it is statistically unlikely that for workers in Indonesia, Peru, or South Africa (see column 2), transitions to formal employment worsen relative income position. In Indonesia, Malawi, and South Africa (see column 6), transitions to formal employment are also associated with persistence in remaining in the top income quantile. In South Africa, the odds ratio is particularly high; when translated into probability, it suggests that persisting in the top income decile is likely to occur, with a probability of 92%, or for almost everyone who experiences the transition to formal employment. This finding suggests that formal employment is probably not accessible to everyone; it is

taken up by individuals who are already relatively advantaged in terms of income. Moreover, formal employment enables exiting the bottom quantile for workers in Peru (see column 3), but not for workers in the other three countries studied in this paper. What is even more worrying is that in South Africa, it is unlikely that formal employment helps workers to exit the bottom quantile (column 3). The odds ratio in South Africa of 20.65 is equivalent to saying that the probability of remaining in the bottom income decile, despite formal employment, is 95%, or almost for everyone. In other words, formalisation does not significantly improve the labour income of the poorest workers. However, for workers in Malawi, Peru and South Africa (see column 4), transition to formal employment increases the odds of entering the top income quantile.

In contrast, in Indonesia, Peru and South Africa, workers who move from formal to informal employment are likely to move down one income decile (see column 8). Also in these countries, workers are statistically unlikely to move up one income decile (see column 7). Workers who switch to informal employment are also unlikely to experience persistence in remaining in the top quantile of the income distribution (Indonesia; column 12). However, they are likely to remain in the bottom of the income distribution (South Africa; column 11). In Peru and South Africa, they are also more likely than other workers to enter the lowest income quantile (see column 9). In other words, switching to informal employment represents a clear worsening of workers' income. These findings can be taken as evidence that informal employment cannot be considered a choice. Rather, the findings indicate that informal employment is taken up when formal employment is lost, or where there are no other formal employment opportunities.

Labour market transitions and income transitions: Are benefits and losses distributed evenly?

in the next step of our analysis, we checked whether labour market transitions have the same income effect for workers with different socio-demographic characteristics. In order to do this, we divided our country-specific samples to separately study men and women, younger workers (under 35 years) and older workers (35 years and older),[7] as well as workers with different levels of education (primary or no education, as opposed to workers with secondary or tertiary education). While other socio-demographic characteristics may also be important – such as status in employment, area where the survey respondents are living (i.e. urban or rural), sector or occupation – our data are insufficient to provide a disaggregated analysis for each of these subcategories.

In the subsamples of workers who were in informal employment at the beginning of the time period, and who continued to be employed in the following time period (informally or formally), the retained dependent variables were a large income gain and upward mobility. In the subsamples of workers who were in formal employment at the beginning of the time period, and who continued to be employed in the following time period (informally or formally), the retained dependent variables were a large income loss and downward mobility. All dependent variables were dichotomous. We repeated estimations such as (2) and (3) for these variables and subsamples. Subsamples for Malawi were too small for meaningful analysis; we therefore focused only on Indonesia, Peru and South Africa.

Table 6.9 to Table 6.11 inclusive report the estimation results. Taken together, they show that in three countries – Indonesia, Peru and South Africa – after moving to informal employment, women had higher odds of experiencing large absolute income losses than had men. However, in terms of relative losses, after moving from formal to informal employment, men in Indonesia and South Africa, but not in Peru, had higher odds of experiencing a downward change in income quantile than had women.

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[7] The age threshold is arbitrary. It is chosen in order to enable the division of each country's sample into more or less equal parts.

After moving to formal employment, women in Indonesia and Peru, but not in South Africa, were also more likely to experience a large absolute income gain when their incomes were compared with the incomes of men who made this transition.

In Peru and South Africa, the probability of losses and gains, as well as of relative mobility, was more amplified for younger workers than for older workers. The opposite was true in Indonesia: transitions to and from formal employment had greater income effects on older workers than on younger workers.

Looking by education groups, the results differed markedly across countries. In Indonesia, after moving to formal employment, workers with no education, or only primary education, had substantially higher odds of experiencing both absolute and relative income losses than had workers with more education. In contrast, after moving to formal employment, workers with secondary or tertiary education had higher odds of improving their absolute income than had workers with less education. In Peru, when experiencing labour market transitions, workers with secondary or tertiary education had higher odds of experiencing both income gains and losses in absolute and relative terms than had workers with no education. In South Africa, after moving to informal employment, workers with more education had higher odds of experiencing losses, whereas workers with less education had higher odds of experiencing gains after moving to formal employment.

Table 6.9. Benefits and losses for different groups of workers: Indonesia

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Men	Wo-men	Youn-ger	Older	More edu-cation	Less edu-cation	Men	Wo-men	Youn-ger	Older	More edu-cation	Less edu-cation
	Large income loss						Moving down at least one income decile					
ToInformal	27.075*	33.187*	19.596*	40.367*	23.508*	No obs	5.138*	3.065*	4.242*	4.194*	4.172*	7.618*
	(13.175)	(36.994)	(13.211)	(30.000)	(10.538)		(0.926)	(0.942)	(1.231)	(0.816)	(0.693)	(3.395)
Number of Observations	767	262	319	701	929		788	267	321	695	914	147
Pseudo R-squared	0.271	0.261	0.239	0.357	0.248		0.120	0.010	0.097	0.133	0.098	0.207
	Large income gain						Moving up at least one decile					
ToFormal	3.852*	6.255*	3.633*	6.081*	4.793*	3.842*	1.041*	1.609*	1.289*	0.986*	1.167*	1.272*
	(0.759)	(1.891)	(0.835)	(1.626)	(0.940)	(1.225)	(0.159)	(0.434)	(0.252)	(0.192)	(0.175)	(0.364)
Number of observations	3 516	2 107	1 677	3 274	2 282	3 315	2 340	949	1 015	2 142	1 549	1 721
Pseudo R-squared	0.136	0.087	0.135	0.141	0.124	0.115	0.020	0.015	0.008	0.016	0.023	0.019

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column headings, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age (except regressions run separately for younger and older workers), gender (except regressions run separately for men and women), education (except regressions run separately for workers with less, and with more education), civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbol (*) represents statistical significance at p<0.01.
Source: Authors' calculations based on country-specific household data.

Table 6.10. Benefits and losses for different groups of workers: Peru

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Men	Wo-men	Youn-ger	Older	More edu-cation	Less edu-cation	Men	Women	Youn-ger	Older	More edu-cation	Less edu-cation
	Large income loss						Moving down at least one income decile					
ToInformal	1.605*	1.978*	1.800*	1.755*	2.264*	0.822	1.794*	2.196*	2.033*	1.936*	2.613*	0.754
	(0.228)	(0.390)	(0.399)	(0.241)	(0.299)	(0.191)	(0.258)	(0.447)	(0.460)	(0.272)	(0.350)	(0.186)
Number of observations	1 532	1 053	583	1 949	2 168	417	1 532	1 053	583	1 949	2 168	417
Pseudo R-squared	0.018	0.034	0.025	0.028	0.032	0.005	0.017	0.028	0.029	0.025	0.032	0.016
	Large income gain						Moving up at least one income decile					
ToFormal	1.411*	1.682*	1.834*	1.406*	1.615*	1.253	1.320**	2.012*	2.076*	1.399*	1.705*	1.250
	(0.185)	(0.262)	(0.322)	(0.177)	(0.193)	(0.233)	(0.174)	(0.315)	(0.36)	(0.177)	(0.20)	(0.234)
Number of observations	3 309	3 150	1 837	4 478	2 288	4 168	3 309	3 150	1 837	4 478	2 288	4 168
Pseudo R-squared	0.004	0.006	0.008	0.003	0.009	0.003	0.002	0.009	0.013	0.002	0.010	0.002

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column headings, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age (except regressions run separately for younger and older workers), gender (except regressions run separately for men and women), education (except regressions run separately for workers with less, and with more education), civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbol (*) represents statistical significance at p<0.01.

Source: Authors' calculations based on country-specific household data.

Table 6.11. Benefits and losses for different groups of workers: South Africa

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Men	Women	Younger	Older	More education	Less education	Men	Women	Younger	Older	More education	Less education
	Large income loss						Moving down at least one income decile					
ToInformal	2.225*	2.261*	2.571*	1.972*	2.383*	1.577*	1.863*	1.845**	2.001**	1.689*	1.921**	1.552**
	(0.222)	(0.269)	(0.291)	(0.204)	(0.198)	(0.297)	(0.17)	(0.195)	(0.207)	(0.161)	(0.148)	(0.243)
Number of observations	4 008	3 283	2 988	4 065	6 242	1 045	3 519	2 844	2 585	3 572	5 432	928
Pseudo R-squared	0.026	0.025	0.034	0.020	0.024	0.039	0.027	0.020	0.027	0.020	0.020	0.018
	Large income gain						Moving up at least one income decile					
ToFormal	1.745**	1.323*	1.910**	1.250**	1.550**	1.493**	1.487**	1.812**	1.861**	1.326**	1.587**	1.735*
	(0.191)	(0.151)	(0.220)	(0.141)	(0.140)	(0.243)	(0.164)	(0.223)	(0.215)	(0.161)	(0.149)	(0.296)
Number of observations	1 627	1 485	1 490	1 537	2 291	816	1 464	1 306	1 327	1 369	2 038	728
Pseudo R-squared	0.022	0.006	0.027	0.012	0.011	0.017	0.023	0.038	0.030	0.021	0.024	0.044

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column headings, when transitioning to the state indicated in the column row. Standard errors are in parentheses. All regressions include controls for age (except regressions run separately for younger and older workers), gender (except regressions run separately for men and women), education (except regressions run separately for workers with less, and with more education), civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbol (*) represents statistical significance at p<0.01.
Source: Authors' calculations based on country-specific household data.

Labour market transitions versus other "life events": What is more relevant for income changes?

Individual income trajectories can vary not only due to changes in the labour market situation but also due to other life events. Among others, such events include a change in the composition of the household caused by marriage or divorce/separation, or a change in the number of household members (Jenkins, 2011[64]; DiPrete and McManus, 2000[65]). They may also include changes in health status (Liu, 2016[81]; Trevisan and Zantomio, 2016[82]). In high-income countries, many such events, or risks, are covered by social protection, which includes family benefits, survivor benefits, and health insurance. In developing countries, and especially for informal workers, many of these mechanisms are either not available or are insufficient. In the absence of an adequate social and employment policy, under certain circumstances, the impact of these events may persist and may have long-term consequences for workers and for their families.

With this in mind, it is interesting to compare the impact of such events on individual labour income with the impact of labour market transitions. Evidence from high-income economies suggests that labour market transitions help workers to move out of poverty, whereas life events, in contrast, have a higher probability of causing workers to enter poverty (Polin and Raitano, 2014[66]; Neilson et al., 2008[63]).

For the countries analysed in this paper, we re-estimated selected regressions on absolute and relative income mobility, and augmented them with two "life events" variables: birth (equal to one, if there was a birth in the household between the two time periods), and separation (equal to one, if there was a separation, divorce, or death of a partner or spouse between the two time periods).[8]

Table 6.12 to Table 6.15 inclusive report the estimation results. For all countries, all previous results with regard to the impact of labour market transitions on income mobility remain unchanged in magnitude, directionality, and significance. In other words, they are robust to the inclusion of the "life events" variables.

Table 6.12. Impact of labour market transitions and life events on absolute and relative income mobility: Indonesia

	(1)	(2)	(3)	(4)	(5)	(6)
	Large loss	Decile down	Enter bottom	Large gain	Decile up	Exit bottom
ToInformal	41.030***	4.518***	No obs			
	(24.071)	(0.767)				
Birth	12.775***	6.441**		2.168***	1.047	1.889*
	(8.564)	(4.764)		(0.530)	(0.231)	(0.673)
Separation	12.406***	4.115**		1.138	1.265	1.347
	(8.688)	(2.546)		(0.216)	(0.281)	(0.468)
ToFormal				4.445***	1.156	0.588
				(0.823)	(0.159)	(0.191)
Number of observations	874	914		5 616	3 499	5 616
Pseudo R-squared	0.316	0.130		0.109	0.013	0.023

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression. Columns 1-3: the sample is restricted to workers who, at the beginning of each time period, were in formal employment. Columns 4-6: the sample is restricted to workers who, at the beginning of each time period, were in informal employment.
Source: Authors' calculations based on country-specific household data.

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[8] We are not able to test for the effects of marriages, as this would mean considerably limiting the sample to single individuals at the beginning of each time period. In addition, data on health status and health expenses are too poor and inconsistent between countries to enable meaningful comparative analysis.

Table 6.13. Impact of labour market transitions and life events on absolute and relative income mobility: Malawi

	(1)	(2)	(3)	(4)	(5)	(6)
	Large loss	Decile down	Enter bottom	Large gain	Decile up	Exit bottom
ToInformal	0.707	0.966	0.860			
	(0.552)	(0.524)	(0.350)			
Birth	0.323	0.677	1.671	0.697	1.734**	1.178
	(0.206)	(0.399)	(0.660)	(0.142)	(0.478)	(0.566)
Separation	2.994	0.360	3.038	1.323	2.502	3.832
	(3.499)	(0.465)	(2.647)	(0.513)	(1.409)	(2.661)
ToFormal				1.078	2.050***	1.203
				(0.240)	(0.542)	(0.618)
Number of observations	318	135	354	1 993	462	1 824
Pseudo R-squared	0.210	0.131	0.327	0.406	0.086	0.128

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression. Columns 1-3: the sample is restricted to workers who, at the beginning of each time period, were in formal employment. Columns 1-4: the sample is restricted to workers who, at the beginning of each time period, were in informal employment.
Source: Authors' calculations based on country-specific household data.

Table 6.14. Impact of labour market transitions and life events on absolute and relative income mobility: Peru

	(1)	(2)	(3)	(4)	(5)	(6)
	Large loss	Decile down	Enter bottom	Large gain	Decile up	Exit bottom
ToInformal	1.750***	2.095***	3.201***			
	(0.276)	(0.337)	(1.385)			
Birth	0.862	0.904	2.038	1.339**	1.560***	1.494
	(0.183)	(0.193)	(1.301)	(0.175)	(0.204)	(0.590)
Separation	3.404**	3.634**	16.222***	0.367	0.707	No obs
	(2.010)	(2.189)	(16.095)	(0.184)	(0.438)	
ToFormal				1.598***	1.629***	2.777***
				(0.215)	(0.217)	(0.933)
Observations	2 586	2 586	2 586	6 459	6 459	6 430
Pseudo R-squared	0.024	0.026	0.088	0.008	0.009	0.052

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression. Columns 1-3: the sample is restricted to workers who, at the beginning of each time period, were in formal employment. Columns 1-4: the sample is restricted to workers who, at the beginning of each time period, were in informal employment.
Source: Authors' calculations based on country-specific household data.

Table 6.15. Impact of labour market transitions and life events on absolute and relative income mobility: South Africa

	(1)	(2)	(3)	(4)	(5)	(6)
	Large loss	Decile down	Enter bottom	Large gain	Decile up	Exit bottom
ToInformal	2.149***	1.895***	2.930***			
	(0.293)	(0.213)	(0.846)			
Birth	1.045	0.997	1.025	0.866	0.970	1.132
	(0.147)	(0.112)	(0.364)	(0.139)	(0.154)	(0.305)
Separation	0.497	0.663	No obs	2.796	4.148	2.644
	(0.267)	(0.247)		(2.349)	(3.816)	(1.609)
ToFormal				1.381**	1.521***	0.303***
				(0.175)	(0.191)	(0.081)
Observations	6 216	6 212	6 117	2 638	2 635	2 569
Pseudo R-squared	0.018	0.024	0.047	0.017	0.028	0.076

Note: Each cell reports the odds ratios of experiencing the outcome (as opposed to not experiencing it), indicated in the column heading. Standard errors are in parentheses. All regressions include controls for age, gender, education, civil status, number of household members, living in an urban area, status in employment, and sector of economic activity. The symbols (***), (**) and (*) represent statistical significance at $p<0.01$, $p<0.05$ and $p<0.1$. No obs means not enough observations to perform this regression. Columns 1-3: the sample is restricted to workers who, at the beginning of each time period, were in formal employment. Columns 1-4: the sample is restricted to workers who, at the beginning of each time period, were in informal employment.
Source: Authors' calculations based on country-specific household data.

In Indonesia (Table 6.12), the effects of labour market transitions on income mobility were of a greater magnitude when compared with the effects of life events. In addition, the effects of life events differed among workers who were in formal employment or informal employment at the beginning of each time period. For initially formal workers (columns 1-3), both a birth and a separation increased the odds of income losses. This may have been due to lack of, or inadequate, social protection in the case of such eventualities, even if workers were actually in formal employment. It may also have been due to a change in the hours of formal work that we do not control for. It is also possible that there was a "substitution effect": formal workers can afford to temporarily reduce work supply, and hence income, in the case of a life event such as the birth of a child. In contrast, for initially informal workers (columns 4-6), a birth is associated with increased odds of improving labour income in absolute, although not in relative, terms. It is possible that these workers increased their labour supply or work intensity as they needed to feed more household members.

In Malawi (Table 6.13), life events did not have significant effects on labour income. The only exception was the relative improvement in informal workers' income in the case of a birth (column 5), which is similar to the findings for Indonesia.

In Peru (Table 6.14), for initially formal workers, a separation had a substantially larger effect on income losses than had labour market transitions, and especially on the odds of entering poverty; this finding is consistent with the literature. However, for initially informal workers, labour market transitions had the dominant effect on labour income changes. A birth also increased the odds of improving income in both absolute and relative terms.

In South Africa (Table 6.15), life events did not have any significant impact on labour income changes.

7 Conclusions

This paper examined the linkages between labour market transitions and changes in the labour incomes of workers in four developing and emerging economies – Indonesia, Malawi, Peru and South Africa. It contains five sets of findings, which can be translated into policy recommendations to improve the outcomes of workers and their families.

- Transition from informal to formal employment clearly increases the likelihood of improving workers' incomes.

Such transitions significantly increase the probability of experiencing large absolute income gains (more than a 20% increase in income when compared with income in the previous time period) for workers in Indonesia, Peru and South Africa. Moreover, they also increase the probability of relative income mobility. In Malawi, Peru and South Africa, workers switching to formal employment have a higher probability of moving to at least one higher income decile.

This finding suggests that, in addition to improving social protection and protection by labour laws, formalisation can also yield immediate tangible benefits for workers and their families. As such, it can also create a financial incentive to formalise, when formalisation is a choice. While promoting formalisation, it may be important to also emphasise these benefits.

- In contrast, informalisation increases the probability of worsening income outcomes for workers.

Transitions from formal to informal employment substantially increase the risk of large absolute income losses (more than a 20% decrease in income when compared with income in the previous time period) for workers in Indonesia, Peru and South Africa. In terms of relative income mobility, workers switching to informal employment also risk moving down at least one income decile. They are also more likely to either exit the top income quantile, or remain in the bottom income quantile, or even enter the lowest income quantile.

These findings are in contrast to findings for high-income countries. In high-income countries, labour market transitions have a greater effect on income gains than on income losses, because such transitions are cushioned by social protection and safety nets. In developing countries, however, social protection systems tend to have a lower general income loss cushioning effect. The fact that we observe a considerable worsening of the earnings of workers who moved to informal employment suggests that these workers simply cannot afford to remain unemployed or out of the labour market when formal employment is lost, and they do not benefit from social protection. From this standpoint, informal earnings do play a role in reducing poverty when the alternative is no earnings at all; but these earnings, on aggregate, are clearly lower when compared with the earnings in formal employment. Often, this signifies that informal employment is not a choice.

In light of these issues, strengthening social protection systems, and especially unemployment benefit support, is particularly important. Active labour market policies that are designed to help workers reskill, to redirect them to formal employment, and to support relocation can also help them avoid slipping into informal employment. These policies need to be implemented in the context of broader policies that support general formal job creation and inform workers about formal job opportunities (OECD/ILO, 2019[2]).

- Financial gains from formalisation do not accrue to all workers equally.

Switching to formal employment has the greatest potential to improve the labour income of the richest workers (those who are already in the top of the income distribution or near it) but not of the poorest workers. Moreover, in some countries, such as South Africa, formalisation does not help to lift the poorest workers out of the lowest income quantile.

This finding may have several explanations. The first is that formal employment is not accessible to everyone. All regressions include controls for education, sector of activity, and the area where the survey respondents are living (i.e. urban or rural), but the findings probably reflect other omitted factors, such as the networks that help richer people find formal employment, including accessing the public sector.

The second explanation is that, for the self-employed to fully benefit from formalisation, they must already have substantial resources, or access to savings and capital. Only in such cases can formalising their business make it even more profitable.

Finally, the fact that the poorest workers do not benefit financially from formalisation – this is especially evident in South Africa – may also be related to the unobservable characteristics of each occupation. Some occupations, such as domestic work or waste picking, may feature low earnings irrespective of whether they are formal or not. Moreover, during the time period that is covered by the data, South Africa did not have a national minimum wage. A sectoral minimum wage existed, but it did not cover all sectors, and because of the differences across sectors, enforcement was weak (ILO, 2015[83]). The absence or the weak enforcement of a minimum wage might have meant that employers had few incentives to increase wages when formalising workers.

The persistence of low incomes for some workers, despite formalisation, may have a considerable long-term effect on material deprivation and health. It may affect skills development and enhance intergenerational transmission of poverty. When coupled with the persistence of high incomes for some other workers despite their status, it may exacerbate inequality and pose a threat to social cohesion.

From a policy perspective, these findings suggest that there is a need for more targeted approaches for the poorest workers. Governments and private actors should be encouraged to create more formal employment opportunities in rural areas and across the full range of sectors and occupations, with the possibility to enable access to these formal employment opportunities by the poorest workers (who are likely to have the lowest level of skills) (OECD, 2023[1]). However, for the poorest workers, poverty eradication and inclusive growth should be a priority, whereas formalisation should be seen as a means to help achieve these goals, but not necessarily an end in itself.

For employees, setting minimum wages, regularly reviewing them jointly with social partners (including informal workers' associations) so that they reflect well the minimum living standards, and enforcing them, is also one of the ways to ensure that formalisation financially benefits the poorest workers (Berg, 2015[84]). However, care should be exercised not to set the minimum wage too high, so that formalisation can be afforded (OECD, 2008[85]; ILO, 2015[83]).

Governments and other civil actors should also dedicate more effort to educating workers and their employers on other longer-term benefits of formalisation for employers, workers and their families, such as social security coverage and protections by labour laws. These protections provide a strong argument for formalisation, even when the immediate financial benefits of formalisation are not obvious. Moreover, formalisation is a long process; as such, enabling workers in the informal economy to access at least some formal employment arrangements, even if they are not fully formalised or not necessarily financially better off, should be considered an important outcome in the overall process of formalisation.

Self-employed workers need more opportunities to increase their access to capital, adopt new technologies, and access new clients and markets, with a view to increasing productivity and incomes. Here, the role of the state, chambers of commerce and co-operatives is important, as private banks may

be less willing to provide credit to informal self-employed workers with little collateral and references. In addition, simplifying tax regimes aimed at providing incentives (and opportunities) to access credit, markets and declare employees' wages is to be encouraged (OECD, 2008[85]).

Finally, to break through the "sticky ceiling", higher-paid formal jobs must be made accessible to a greater number of workers, including those from disadvantaged backgrounds. Raising the education levels of all population groups, including the very poor, can improve preparedness for available jobs in the formal labour market and help break the intergenerational informality cycle (Aleksynska and Kolev, 2021[46]). More generally, providing vocational training, formal education for informal workers, and skill recognition for informal workers can help transitions to formal employment and better-paying work statuses. If the network interpretation of our findings is correct, it will be necessary to create more social mixing opportunities, including in education and in housing, for children and young adults from formal and informal households, in order to increase their chances of networking with the providers of formal jobs.

- Transitions between formal and informal jobs affect income gains and losses differently for workers with different socio-economic characteristics.

Women and men, younger and older workers, or workers with different levels of education do not have a similar probability of changing their income when switching between formal and informal employment. In Indonesia, Peru and South Africa, women moving to informal employment were more likely than men to experience large income losses. In Indonesia and Peru, but not in South Africa, women moving to formal employment were also more likely than men to experience a large absolute income gain. In Peru and South Africa, the probability of losses and gains, as well as of relative mobility, was higher for younger workers than for older ones. The opposite was true in Indonesia: transitions to and from formal employment had greater income effects on older workers. Looking at education groups, the results differed substantially across countries. These findings call for paying additional policy attention to specific population groups, in specific country contexts.

- The effect of labour market transitions on income changes is considerably stronger than the effects of other life events such as a births, separation, or death of a partner or spouse, even if such events increase the likelihood of entering poverty.

Labour market transitions have a strong effect on labour income, independently of other life changes that may occur simultaneously. Moreover, in some countries, such as Indonesia and South Africa, the effects of labour market transitions are considerably greater in magnitude and significance than those of other life events. However, the birth of a child in the household can also affect income: for formal workers, a birth increases the likelihood of income losses. The opposite is true for informal workers: they may increase labour supply or labour intensity in order to feed more household members. A separation, or the death of a partner or spouse can, however, increase the likelihood of slipping into poverty – this is especially the case in Indonesia and Peru.

In terms of policy, these findings suggest that it is necessary to strengthen and generalise types of social protection such as child benefits and survivor benefits, for formal and informal workers alike (OECD, 2019[86]). These policies will not only have a cushioning effect on income; they may also affect household choices over supply of formal and informal working time when their situation changes.

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Annex A. Sample description, attrition rates, and descriptive statistics of key variables

Table A A.1. General data description

Country	Time frame	Intervals between waves	Number of waves	Total number of observations (N pooled)	Total number of unique individuals	Average wave-to-wave attrition rate
Indonesia	2000-14	7-year periods	3	33 488	16 360	19.7%
Malawi	2010-19	3-year periods	4	4 102	1 798	15.9%
Peru	2016-20	1-year periods	5	10 926	2 835	30.6%
South Africa	2008-16	2-year periods	4	15 807	6 366	17.8%

Source: Own calculations.

Table A A.2. Wave-to-wave attrition rates by dataset

Percentage	General population					Working-age population				
	Average	Waves 1 to 2	Waves 2 to 3	Waves 3 to 4	Waves 4 to 5	Average	Waves 1 to 2	Waves 2 to 3	Waves 3 to 4	Waves 4 to 5
Indonesia	**19.7**	20.3	19.1	-	-	**16.9**	16.9	16.9	-	-
Malawi	**15.9**	8.3	10.9	28.4	-	**15.2**	8.9	17.3	19.4	-
Peru	**30.6**	29.3	30.1	29.8	33.1	**30.4**	31.2	31.3	28.3	30.8
South Africa	**17.8**	17.2	17.2	17.3	19.7	**13.4**	19.0	13.3	9.7	11.5

Source: Own calculations.

Table A A.3. Total attrition rates by dataset

Percentage	General population					Working-age population				
	Average	Waves 1 to 2	Waves 1 to 3	Waves 1 to 4	Waves 1 to 5	Average	Waves 1 to 2	Waves 1 to 3	Waves 1 to 4	Waves 1 to 5
Indonesia	27.5	20.3	**34.7**	-	-	16.0	16.9	**15.2**	-	-
Malawi	17.1	8.3	16.6	**26.4**	-	10.5	8.9	10.0	**12.5**	-
Peru	65.0	29.3	54.0	76.6	**99.9**	66.6	31.2	56.9	78.4	**99.9**
South Africa	20.4	17.2	18.1	20.1	**26.1**	22.9	19.0	20.6	22.7	**29.2**

Note: Peru's ENAHO Panel is a rotating panel – new families were added each year.
Source: Own calculations.

Table A A.4. Pooled sample description by country

A. Indonesia

Variable		Obs	Mean	Std. dev.	Min	Max
	Informal employment	33 488	0.836	0.371	0	1
	Age	33 488	37.882	11.333	15	65
	Gender	16 279	1.394	0.489	1	2
Educational attainment						
	No education	33 488	0.031	0.174	0	1
	Primary	16 279	0.448	0.497	0	1
	Secondary	16 279	0.373	0.484	0	1
	Tertiary	16 279	0.110	0.313	0	1
	Other	16 279	0.000	0.016	0	1
Civil status						
	Single	16 279	0.041	0.198	0	1
	Married	16 279	0.872	0.334	0	1
	Separated	16 279	0.029	0.167	0	1
	Widowed	16 279	0.058	0.234	0	1
	Other	16 279	0.000	0.008	0	1
	Household size	17 305	4.903	2.279	1	38
	Urban	32 462	0.489	0.500	0	1
Economic sector						
	Primary	33 479	0.200	0.400	0	1
	Secondary	33 479	0.109	0.312	0	1
	Tertiary	33 479	0.691	0.462	0	1
Demographic shocks						
	Birth in the household	24 005	0.028	0.165	0	1
	Separation of a household head and spouse	24 005	0.008	0.091	0	1
Labour market mobility						
	Formal to informal	24 005	0.057	0.232	0	1
	Informal to formal	24 005	0.073	0.260	0	1
	Formal to formal	24 005	0.102	0.303	0	1
	Informal to informal	24 005	0.768	0.422	0	1
Income mobility						
	Small income loss	24 005	0.012	0.107	0	1
	Large income loss	24 005	0.071	0.257	0	1
	Small income gain	24 005	0.015	0.122	0	1
	Large income gain	24 005	0.563	0.496	0	1
	Deciles: move up >=1	15 866	0.449	0.497	0	1
	Deciles: move down >=1	15 866	0.335	0.472	0	1
	Exit from bottom 10%	24 005	0.044	0.204	0	1
	Entry into bottom 10%	24 005	0.043	0.203	0	1
	Exit from top 10%	24 005	0.027	0.162	0	1
	Entry into top 10%	24 005	0.047	0.212	0	1

B. Malawi

Variable	Obs	Mean	Std. dev.	Min	Max
Informal employment	4 102	0.727	0.446	0	1
Age	4 102	33.592	11.527	15	65
Gender	4 102	1.459	0.498	1	2
Educational attainment					
No education	3 704	0.612	0.487	0	1
Primary	3 704	0.117	0.322	0	1
Secondary	3 704	0.217	0.412	0	1
Tertiary	3 704	0.052	0.222	0	1
Other					
Civil status					
Single	4 102	0.176	0.381	0	1
Married	4 102	0.719	0.450	0	1
Separated	4 102	0.075	0.264	0	1
Widowed	4 102	0.029	0.169	0	1
Other	4 102	0.000	0.022	0	1
Household size	4 102	5.523	2.300	1	21
Urban	4 102	0.261	0.439	0	1
Economic sector		0.000	0.000	0	0
Primary	3 584	0.695	0.461	0	1
Secondary	3 584	0.062	0.242	0	1
Tertiary	3 584	0.243	0.429	0	1
Demographic shocks					
Birth in the household	2 882	0.335	0.472	0	1
Separation of a household head and spouse	2 882	0.045	0.208	0	1
Labour market mobility					
Formal to informal	2 882	0.073	0.261	0	1
Informal to formal	2 882	0.204	0.403	0	1
Formal to formal	2 882	0.120	0.325	0	1
Informal to informal	2 882	0.603	0.489	0	1
Income mobility					
Small income loss	2 882	0.007	0.085	0	1
Large income loss	2 882	0.024	0.154	0	1
Small income gain	2 882	0.009	0.096	0	1
Large income gain	2 882	0.185	0.389	0	1
Deciles: move up >=1	657	0.416	0.493	0	1
Deciles: move down >=1	657	0.309	0.462	0	1
Exit from bottom 10%	2 882	0.014	0.116	0	1
Entry into bottom 10%	2 882	0.009	0.096	0	1
Exit from top 10%	2 882	0.011	0.105	0	1
Entry into top 10%	2 882	0.015	0.120	0	1

C. Peru

Variable	Obs	Mean	Std. dev.	Min	Max
Informal employment	10 926	0.713	0.452	0	1
Age	10 926	42.345	12.520	15	65
Gender	10 926	1.463	0.499	1	2
Educational attainment					
No education	10 926	0.203	0.402	0	1
Primary	10 926	0.296	0.456	0	1
Secondary	10 926	0.316	0.465	0	1
Tertiary	10 926	0.185	0.388	0	1
Other	10 926	0.000	0.019	0	1
Civil status					
Single	10 926	0.527	0.499	0	1
Married	10 926	0.368	0.482	0	1
Separated	10 926	0.079	0.270	0	1
Widowed	10 926	0.026	0.159	0	1
Other		0.000	0.000	0	0
Household size	10 926	4.627	1.984	1	17
Urban	10 926	0.578	0.494	0	1
Economic sector		0.000	0.000	0	0
Primary	10 926	0.423	0.494	0	1
Secondary	10 926	0.113	0.316	0	1
Tertiary	10 926	0.464	0.499	0	1
Demographic shocks					
Birth in the household	8 851	0.074	0.262	0	1
Separation of a household head and spouse	8 851	0.005	0.071	0	1
Labour market mobility					
Formal to informal	8 851	0.046	0.209	0	1
Informal to formal	8 851	0.053	0.225	0	1
Formal to formal	8 851	0.240	0.427	0	1
Informal to informal	8 851	0.660	0.474	0	1
Income mobility					
Small income loss	8 851	0.119	0.324	0	1
Large income loss	8 851	0.358	0.480	0	1
Small income gain	8 851	0.127	0.333	0	1
Large income gain	8 851	0.396	0.489	0	1
Deciles: move up >=1	8 851	0.386	0.487	0	1
Deciles: move down >=1	8 851	0.323	0.468	0	1
Exit from bottom 10%	8 851	0.017	0.129	0	1
Entry into bottom 10%	8 851	0.018	0.132	0	1
Exit from top 10%	8 851	0.080	0.271	0	1
Entry into top 10%	8 851	0.082	0.274	0	1

D. South Africa

	Variable	Obs	Mean	Std. dev.	Min	Max
	Informal employment	15 807	0.360	0.480	0	1
	Age	15 807	38.376	10.448	15	65
	Gender	15 807	1.501	0.500	1	2
Educational attainment						
	No education	15 799	0.040	0.197	0	1
	Primary	15 799	0.209	0.407	0	1
	Secondary	15 799	0.670	0.470	0	1
	Tertiary	15 799	0.057	0.232	0	1
	Other	15 799	0.058	0.234	0	1
Civil status						
	Single	15 805	0.497	0.500	0	1
	Married	15 805	0.363	0.481	0	1
	Separated	15 805	0.039	0.194	0	1
	Widowed	15 805	0.046	0.210	0	1
	Other	15 805	0.055	0.229	0	1
	Household size	15 807	4.309	2.963	1	31
	Urban	15 794	0.655	0.475	0	1
Economic sector						
	Primary	13 661	0.173	0.378	0	1
	Secondary	13 661	0.187	0.390	0	1
	Tertiary	13 661	0.641	0.480	0	1
Demographic shocks						
	Birth in the household	11 729	0.194	0.395	0	1
	Separation of a household head and spouse	11 729	0.017	0.128	0	1
Labour market mobility						
	Formal to informal	11 729	0.102	0.303	0	1
	Informal to formal	11 729	0.147	0.355	0	1
	Formal to formal	11 729	0.521	0.500	0	1
	Informal to informal	11 729	0.229	0.420	0	1
Income mobility						
	Small income loss	11 729	0.082	0.274	0	1
	Large income loss	11 729	0.156	0.363	0	1
	Small income gain	11 729	0.117	0.321	0	1
	Large income gain	11 729	0.641	0.480	0	1
	Deciles: move up >=1	10 350	0.396	0.489	0	1
	Deciles: move down >=1	10 350	0.292	0.455	0	1
	Exit from bottom 10%	11 729	0.038	0.190	0	1
	Entry into bottom 10%	11 729	0.034	0.182	0	1
	Exit from top 10%	11 729	0.025	0.157	0	1
	Entry into top 10%	11 729	0.043	0.202	0	1

Note: Obs refers to observations; Std. dev. Refers to standard deviation.
Source: Own compilation.