

Education pays off, but you have to be patient ¹

Education is essential for communities and economies. It is an enabler of economic growth, productivity, labour market performance, human capital gains and social mobility. Education is a crucial component of development, and particularly of sustainable development. As such, it has always been an integral part of the global efforts for development. In fact, the international community vowed to ensure inclusive and equitable quality education and lifelong learning opportunities for all by 2030, when it adopted Sustainable Development Goal 4 as part of the 2030 Agenda for Sustainable Development.

When it comes to the labour market in particular, education can be seen as an element of advancement. It is a driver of labour productivity, and it allows workers to increase their skills and competencies. This brief provides an overview of the educational level of the workforce around the world and its impact on unemployment and job quality. For this, we use aggregate categories of educational attainment, based on the 2011 International Standard Classification of Education, as described in the figure on the right.

In most of the world, tertiary education is still a luxury, a privilege available only to a minority. As shown in the figure

on pages 2 and 3, in most countries with data, the vast majority of persons in the labour force have not completed any tertiary degree.

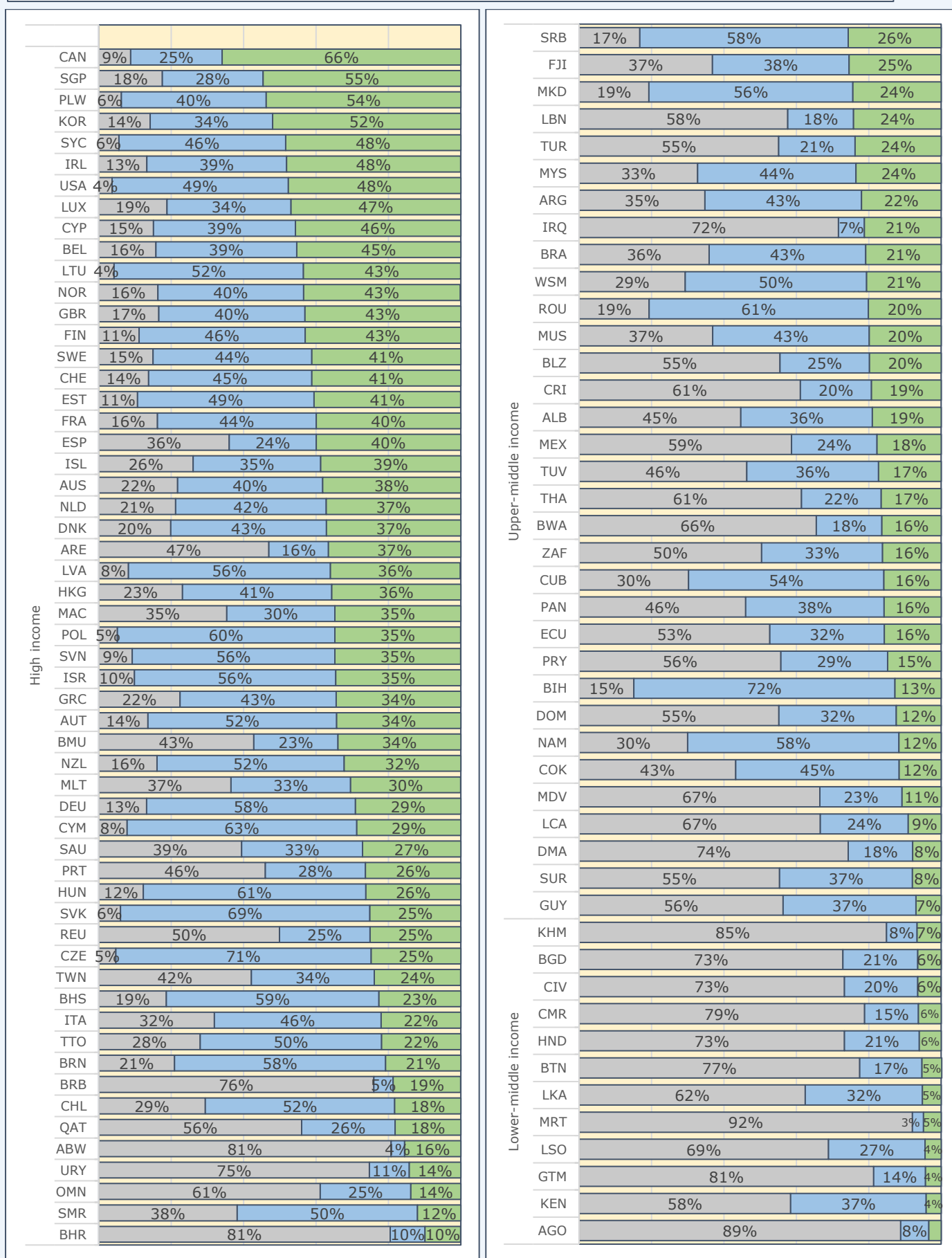
Correspondence between the 2011 International Standard Classification of Education and the aggregate categories used in this brief



¹ This brief was prepared by Rosina Gammarano, from the ILO Department of Statistics' Data Production and Analysis Unit.

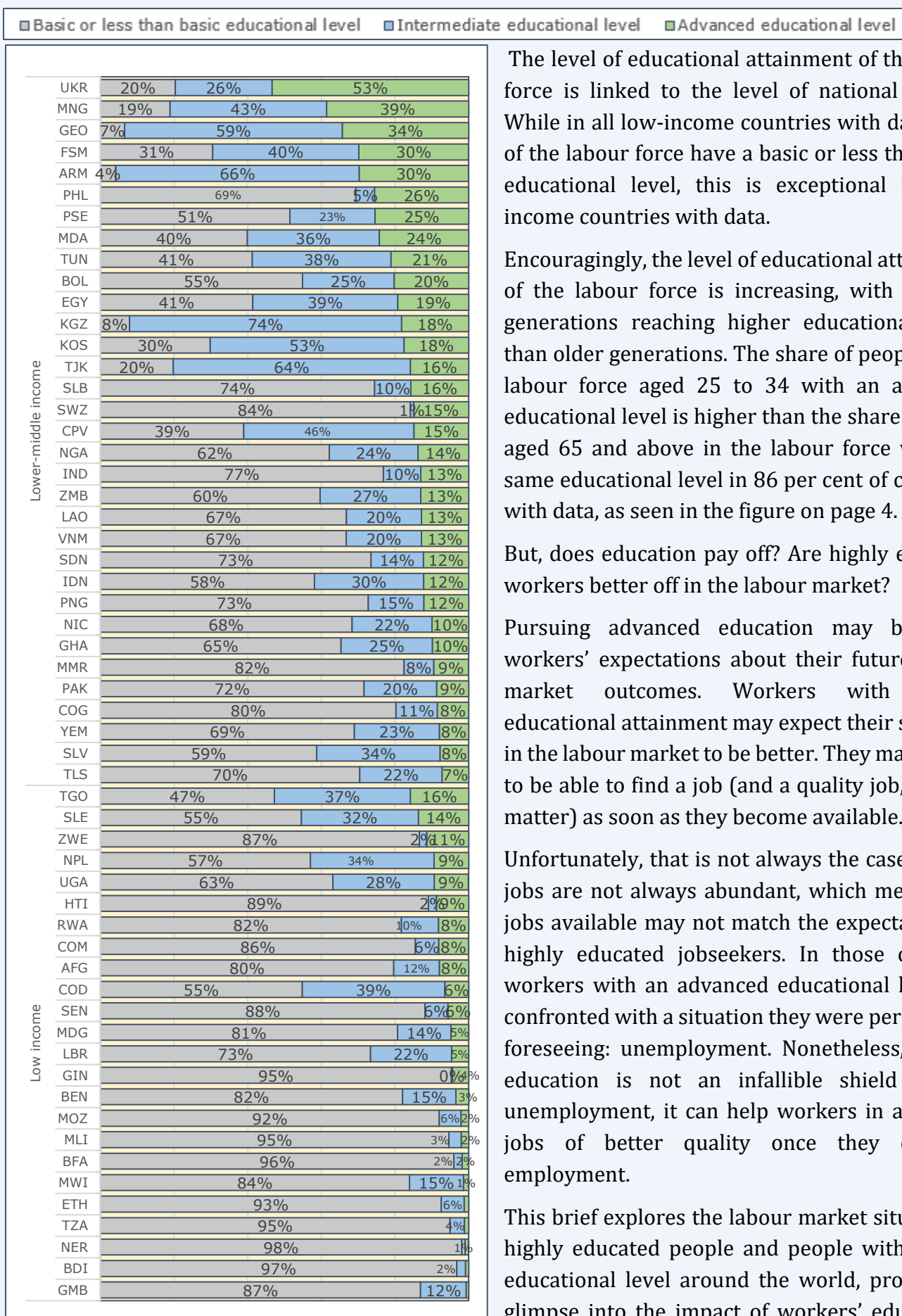
Distribution of the labour force by educational level (latest year available for each country)

Basic or less than basic educational level Intermediate educational level Advanced educational level



Source: ILOSTAT. ISO Alpha-3 country codes are used.

Distribution of the labour force by educational level (latest year available for each country), continued



The level of educational attainment of the labour force is linked to the level of national income. While in all low-income countries with data most of the labour force have a basic or less than basic educational level, this is exceptional in high-income countries with data.

Encouragingly, the level of educational attainment of the labour force is increasing, with younger generations reaching higher educational levels than older generations. The share of people in the labour force aged 25 to 34 with an advanced educational level is higher than the share of those aged 65 and above in the labour force with the same educational level in 86 per cent of countries with data, as seen in the figure on page 4.

But, does education pay off? Are highly educated workers better off in the labour market?

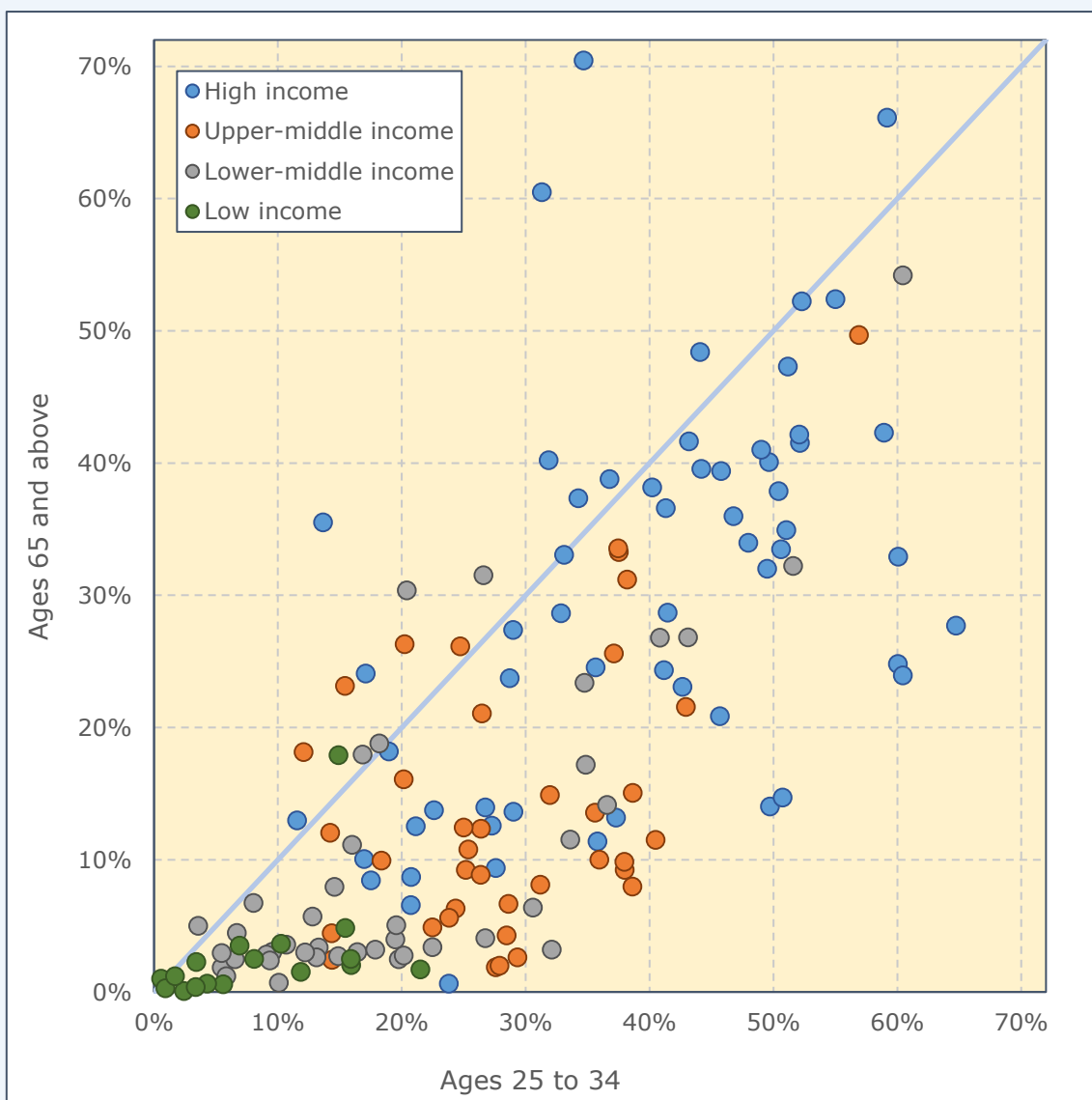
Pursuing advanced education may build up workers' expectations about their future labour market outcomes. Workers with higher educational attainment may expect their situation in the labour market to be better. They may expect to be able to find a job (and a quality job, for that matter) as soon as they become available.

Unfortunately, that is not always the case. Skilled jobs are not always abundant, which means that jobs available may not match the expectations of highly educated jobseekers. In those contexts, workers with an advanced educational level are confronted with a situation they were perhaps not foreseeing: unemployment. Nonetheless, even if education is not an infallible shield against unemployment, it can help workers in accessing jobs of better quality once they do find employment.

This brief explores the labour market situation of highly educated people and people with a basic educational level around the world, providing a glimpse into the impact of workers' educational attainment on their labour market outcomes. It

does so by first focusing on the unemployed: are highly educated people more or less likely to be unemployed than the rest? Then it analyses workers' type of employment: are highly educated people more or less likely to be employees rather than contributing family workers or own-account workers, for instance? Are they more or less exposed to informality? Finally, it investigates whether workers' educational level is correlated with two key aspects of working conditions, namely working time and earnings.

Share of the labour force with an advanced educational level for ages 25 to 34 and 65 and above (latest year available for each country)



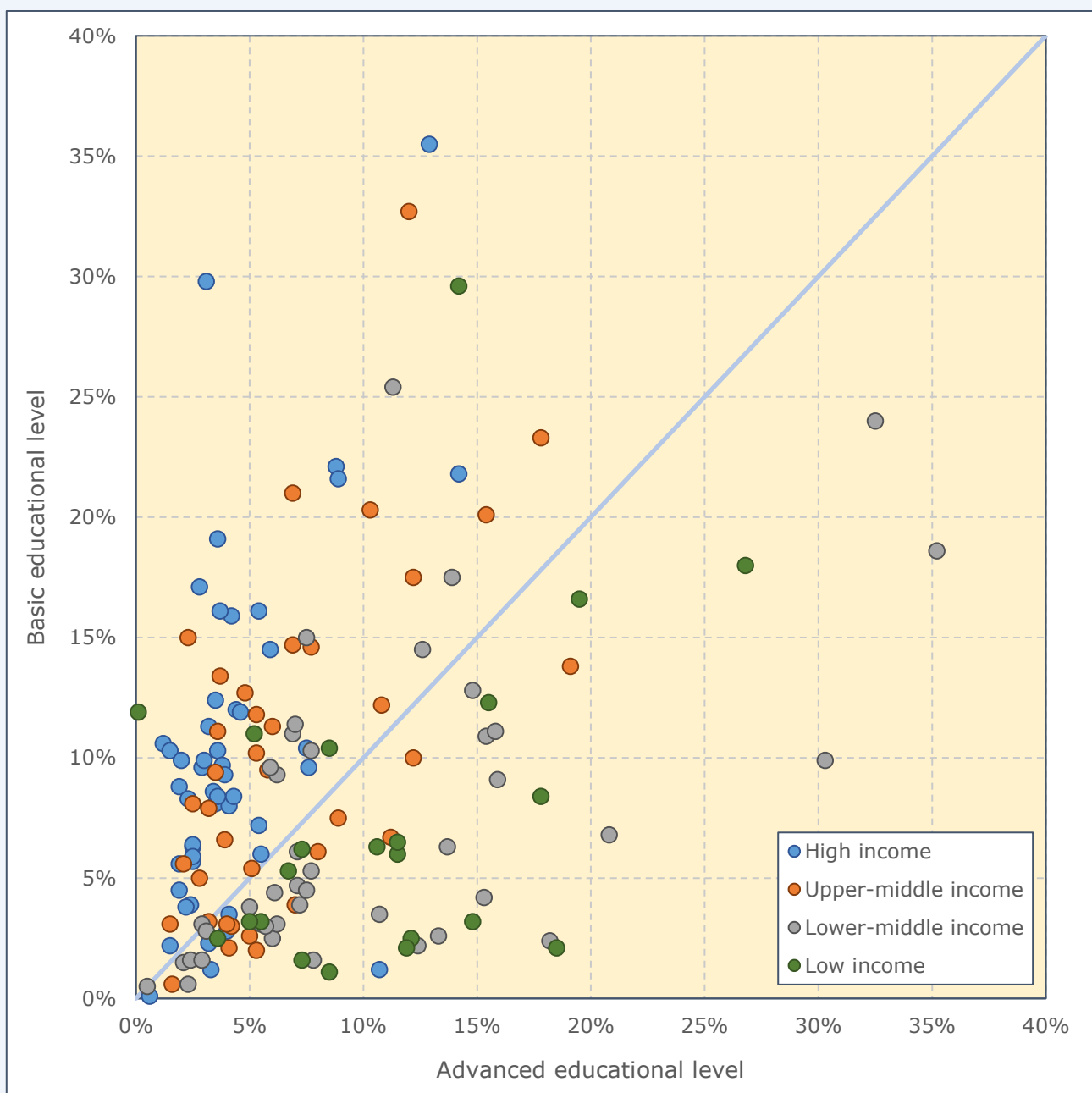
Source: ILOSTAT.

Unemployment among highly educated workers: a big challenge in low-income countries

In pursuing advanced education, workers may expect to be better prepared for the labour market. They may expect that their skills and competencies will allow them to find a quality job without much delay. But this is not always the case: highly educated workers can find themselves unemployed, sometimes even for a long time.

To what extent does our educational level shield us from unemployment? Actually, in 44 per cent of the 156 countries with data, the unemployment rate is higher for people with an advanced educational level than for those with a basic educational level. However, this global overview is hiding what is most interesting here: the differences observed across income groups (see figure below). In fact, in 82 per cent of low-income countries and in 70 per cent of lower-middle-income countries with data, the unemployment rate is higher for those with an advanced educational level than for those with only a basic educational level. The comparative figures for upper-middle-income and high-income countries are 31 per cent and 16 per cent, respectively. In other words, highly educated people are much more likely to be unemployed in low-income countries than in high-income countries, especially compared to people with a basic educational level.

Unemployment rate of people with a basic educational level and those with an advanced educational level (latest year available for each country)



Source: ILO Harmonized Microdata collection.

This could be related to differences in labour market structure and employment opportunities across countries. Are skilled or unskilled jobs more abundant? In low-income countries, skilled jobs may be scarce and there may be a mismatch between the skills required for jobs available and the skills of the jobseekers. Conversely, labour markets in high-income countries may have fewer unskilled jobs, making it more difficult for jobseekers with a basic educational level to find jobs there.

This finding is confirmed when comparing the proportion of people with an advanced educational level among the employed and the unemployed (see figures on page 7). The share of people with an advanced educational level is larger among the unemployed than among the employed (meaning that highly educated people are over-represented among the unemployed) in an astonishing 82 per cent of low-income countries, and only 10 per cent of high-income countries. Likewise, the share of people with a basic educational level or less is larger among the unemployed than among the employed (meaning that people who have not reached upper-secondary education are over-represented among the unemployed) in only 9 per cent of low-income countries, compared to a striking 84 per cent of high-income countries. That is, in low-income countries, workers who struggle the most to find suitable jobs are those with an advanced educational level, while in high-income countries, it is those with a basic educational level or less.

And what about the duration of unemployment? Does it take longer for workers with a certain educational attainment to find a job?

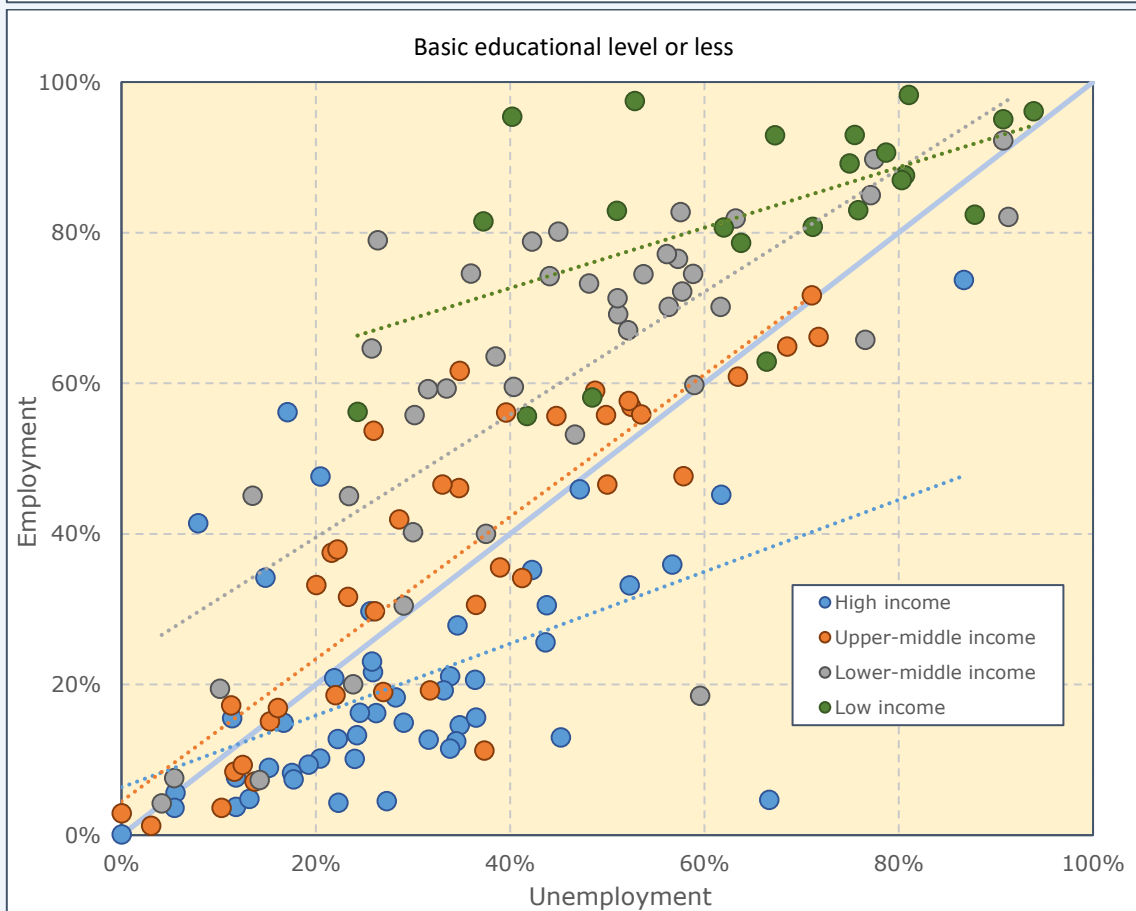
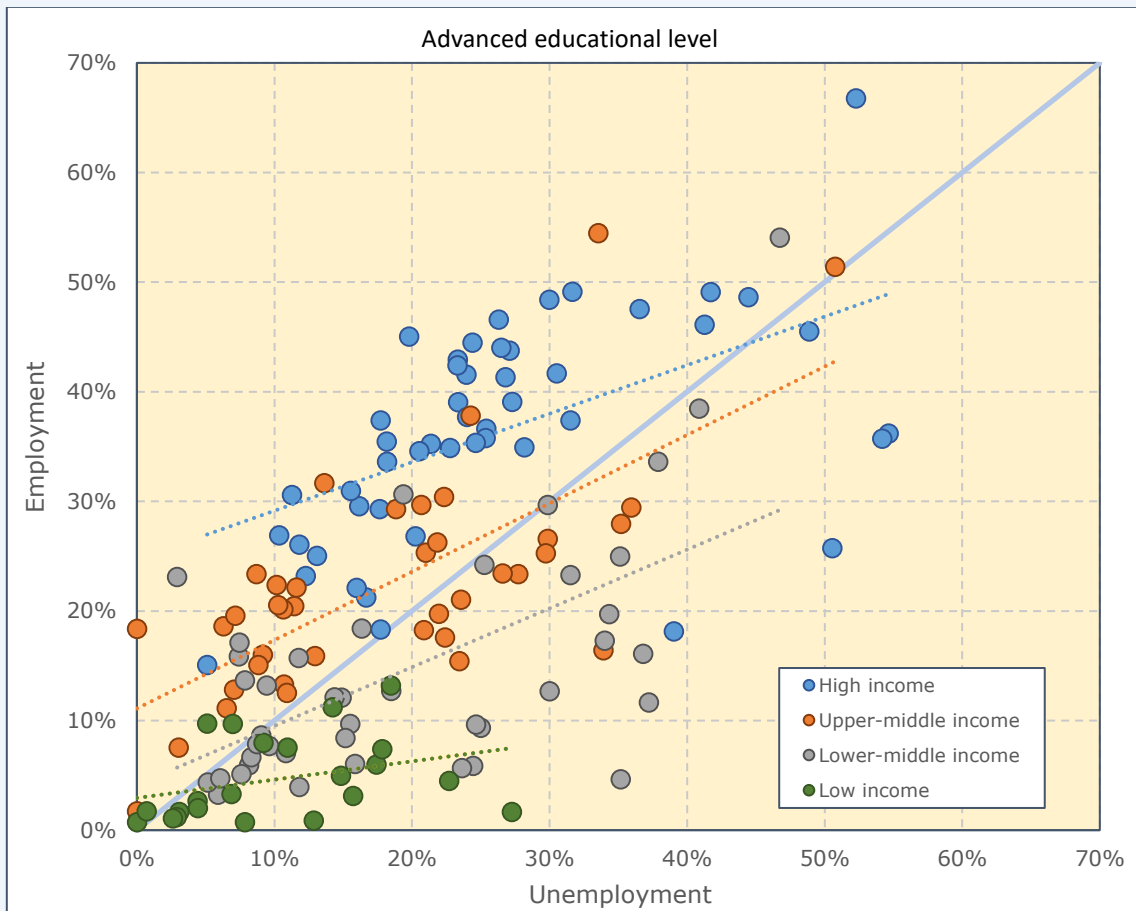
The figures on pages 8, 9 and 10 show that the share of short-term unemployed (unemployed for less than 6 months) is larger for people with an advanced educational level than for those with a basic or less than basic educational level in 77 per cent of high-income countries, 42 per cent of upper-middle-income countries, 10 per cent of lower-middle-income countries and a third of low-income countries. Similarly, the share of long-term unemployed (unemployed for 12 months or more) is larger for people with an advanced educational level than for those with a basic or less than basic educational level in 17 per cent of high-income countries, 46 per cent of upper-middle-income countries, 87 per cent of lower-middle-income countries and 50 per cent of low-income countries.

In general terms, highly educated people take longer to find suitable jobs in lower-middle- and low-income countries, while the opposite is true in high-income countries. This suggests once again that skilled jobs are scarce in low-income countries, at least compared to the number of workers looking for skilled jobs, while in high-income countries it is unskilled jobs that are especially scarce.

In short, in low-income countries, workers with an advanced educational level are more likely to be unemployed than the rest and to remain unemployed for longer, since the type of jobs they are looking for are scarce. On the contrary, in high-income countries, it is workers with a basic or less than basic educational level who struggle the most to find a job, thus being more likely to be unemployed and to remain unemployed for longer.

Nonetheless, this does not tell us anything about the circumstances of their unemployment, such as whether or not they are receiving unemployment benefits, the type of job search infrastructure they have access to, and their criteria to accept a job offer.

Share of employed and unemployed with a given educational level (latest year available for each country)

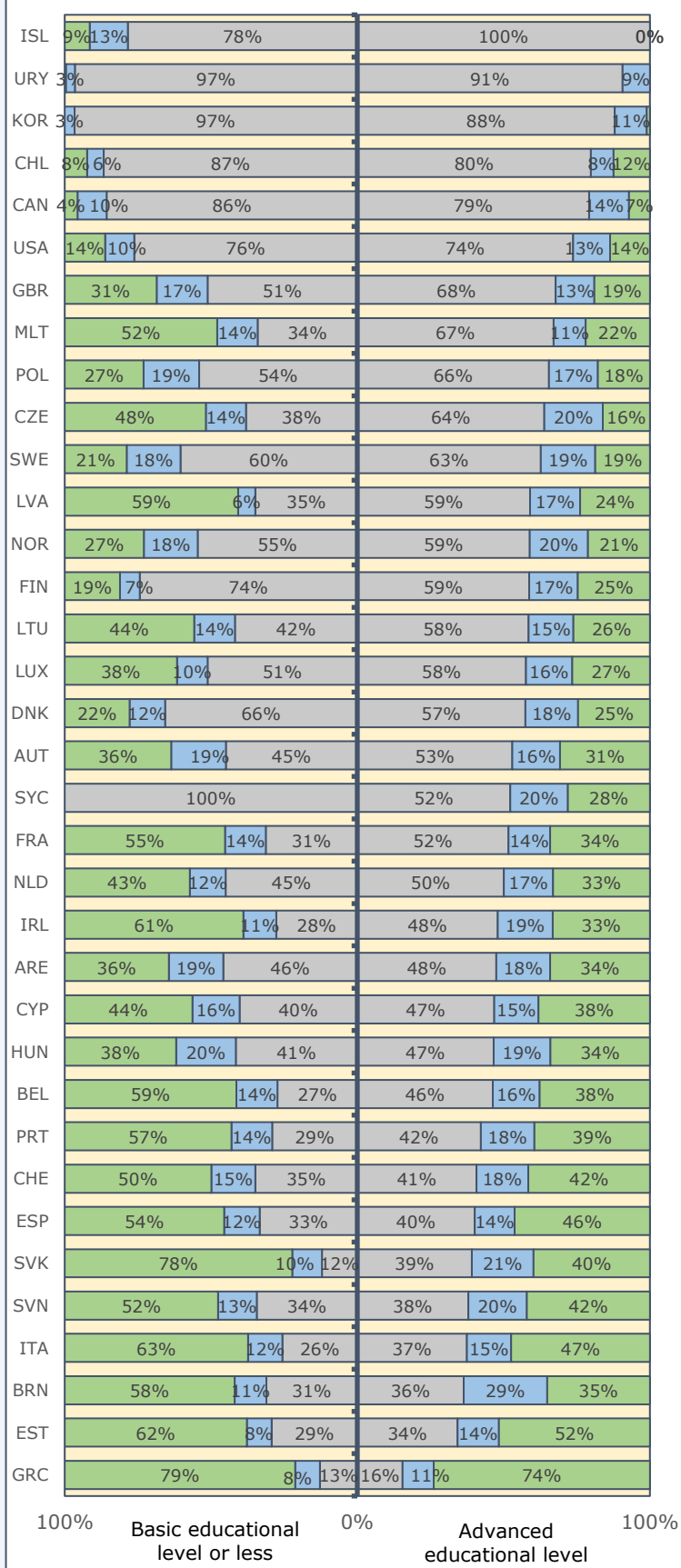


Source: ILO Harmonized Microdata collection.

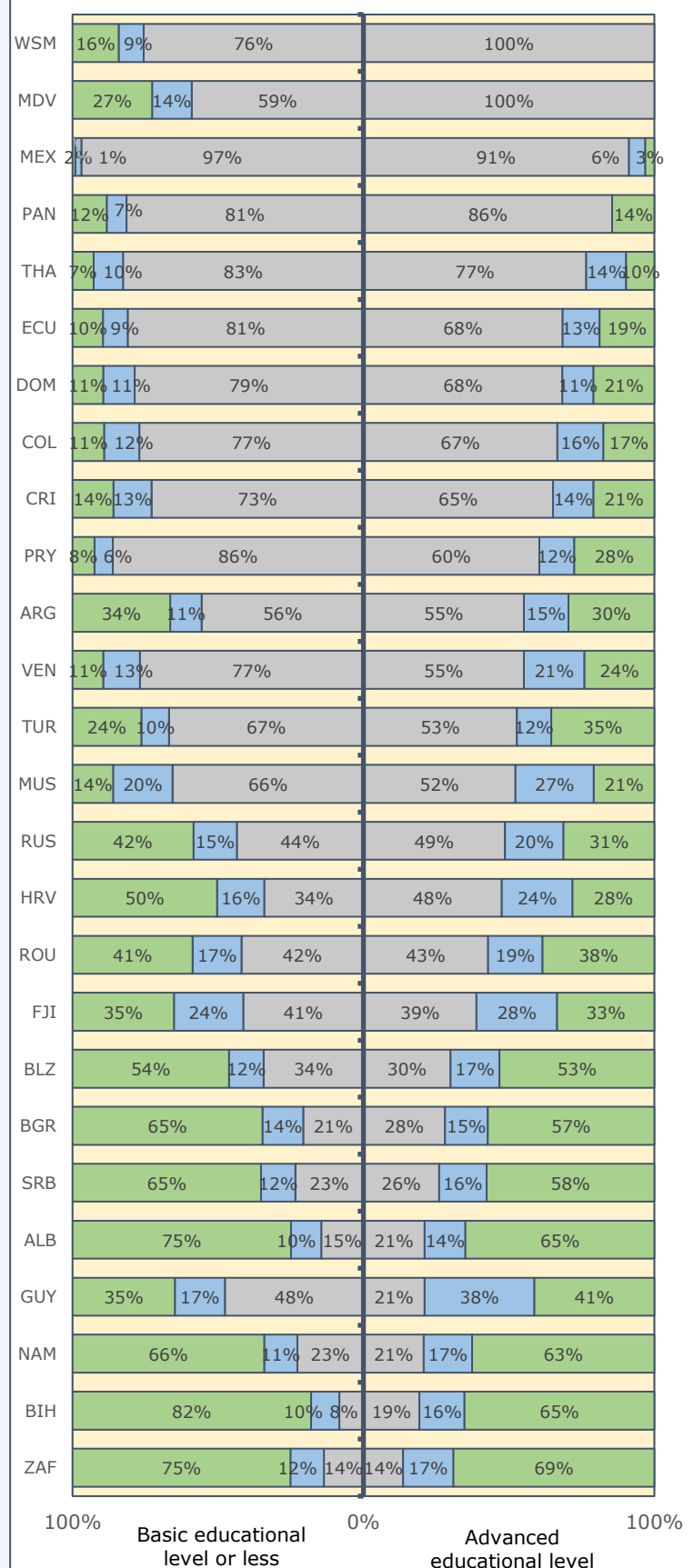
Distribution of unemployment by duration for workers with an advanced educational level and those with a basic or less than basic educational level (latest year available for each country)

Less than 6 months 6 months to less than 12 months 12 months or more

High-income countries



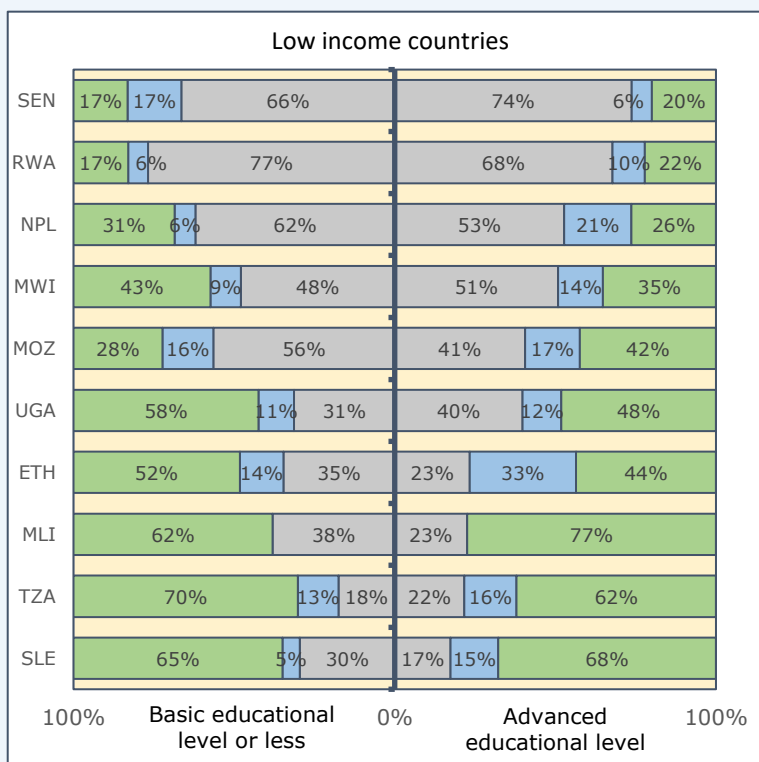
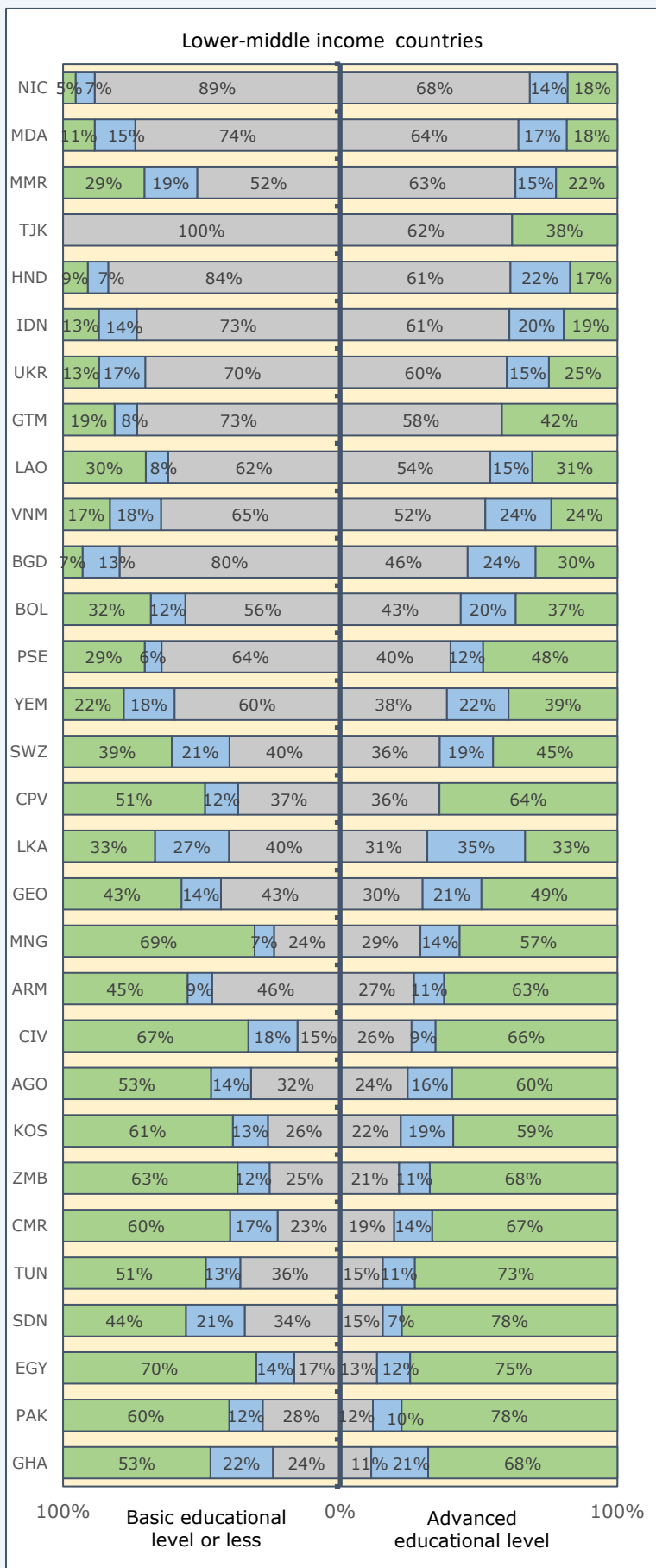
Upper-middle income countries



Source: ILO Harmonized Microdata collection. ISO Alpha-3 country codes are used.

Distribution of unemployment by duration for workers with an advanced educational level and those with a basic or less than basic educational level (latest year available for each country), continued

■ Less than 6 months ■ 6 months to less than 12 months ■ 12 months or more

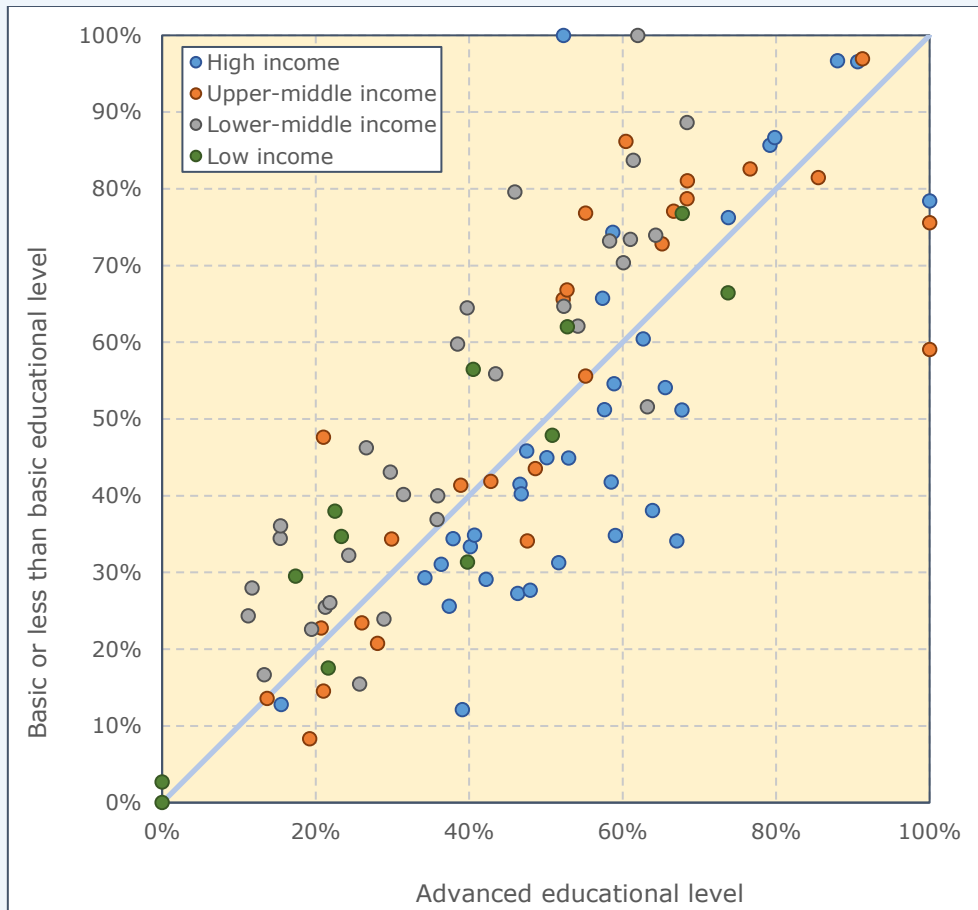


Source: ILO Harmonized Microdata collection. ISO Alpha-3 country codes are used.

Also, the higher unemployment rates of people with advanced education do not necessarily imply that they are worse off. Their higher unemployment rates may reflect in some cases that they can afford to stay unemployed for longer than workers with basic or less than basic education. They may have better access to unemployment benefits, more financial support, or more savings, which would allow them to take the time needed to find a suitable job rather than having to take up any available job.

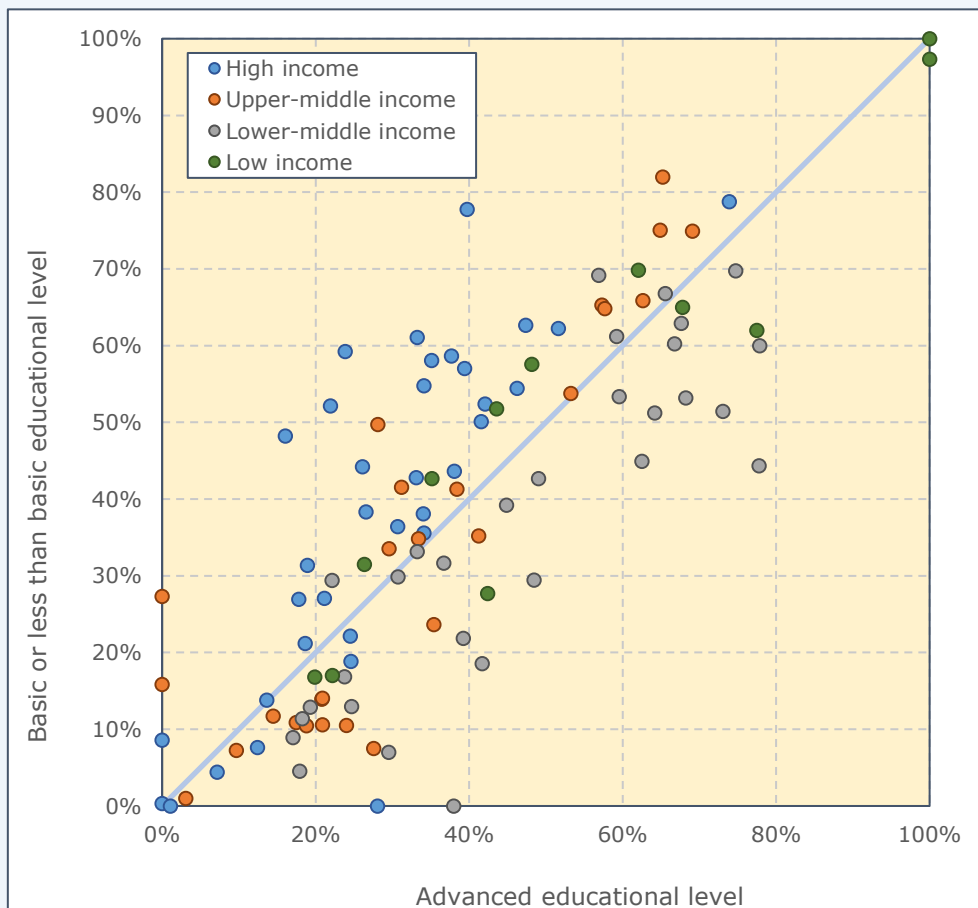
Indeed, that is the other side of the coin: we have seen that it may take some time for highly educated workers to find a proper job in low-income countries, but once they do, what are the conditions of the job? The quality of employment is just as crucial as accessing employment. At least in low-income countries, education does not seem to be an effective shield against unemployment, but does it pay off in terms of job quality?

Share of short-term unemployed (unemployed for less than 6 months), by educational level (latest year available)



Source: ILO Harmonized Microdata collection.

Share of long-term unemployed (unemployed for 12 months or more), by educational level (latest year available)



Source: ILO Harmonized Microdata collection.

Highly educated workers are much more likely to be formal employees

The status in employment is a key element of a worker's job. It refers to a set of specific characteristics of the job, namely the type of contract, the type of economic risk the worker faces in the job (including the attachment between the person and the job), and the type of authority over the work establishment and other workers. Thus, status in employment is closely linked to the quality of employment, as it determines to a great extent the job holder's working conditions. Many aspects of the working life such as job security, basic remuneration, earnings security, working time, and whether the job is in the formal or informal sector are directly related to workers' status in employment.

Although a new International Classification of Status in Employment was adopted in 2018 (ICSE-18), we refer here to the preceding version, adopted in 1993 (ICSE-93), since it is still the most widely used by statistical systems around the world.

The ICSE-93 classifies the employed into the following categories: employees, employers, own-account workers, members of producers' cooperatives, and contributing family workers. Employees (that is, employed persons holding paid employment jobs) represent the category of status in employment usually associated with more job security and better working conditions in general, whereas own-account workers and contributing family workers constitute two status in employment categories regarded as vulnerable employment. Although this is true in general terms, it is important to keep in mind that some employees do lack basic elements of decent work (such as not being covered by social security and/or social dialogue) while some own-account workers and contributing family workers are not in a precarious or vulnerable situation.

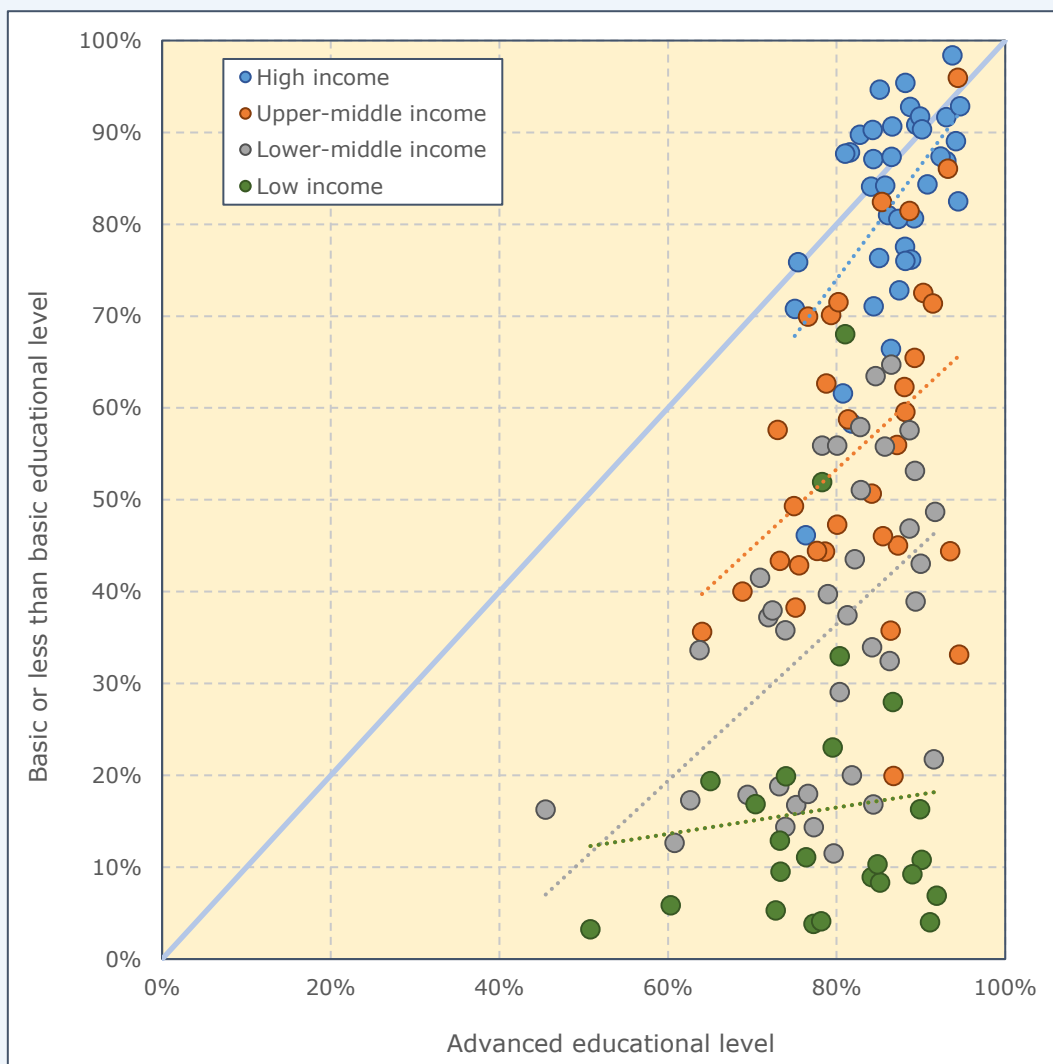
Since employees generally benefit from better working conditions, the share of employees in total employment (also known as the paid employment rate) provides a glimpse into the working conditions of the employed population. It is a proxy indicator of employment quality.

The impact of the workers' educational level on their chances of being in paid employment is evident in the figure presented on the following page. In the vast majority of countries with data (87 per cent), the share of employees is higher among people with an advanced educational level than among those with a basic or less than basic educational level. This pattern is common to all levels of national income. In fact, in the figure we see very clearly that workers with an advanced educational level have a very high tendency to be employees: in all countries except for two (Solomon Islands and Togo) the paid employment rate of workers with advanced education exceeds 60 per cent.

What is most striking in this regard is the gap between the paid employment rate of persons with advanced education and that of persons with basic or less than basic education. Paid employment is the norm in high-income countries in general, so in those countries, paid employment rates are high for all workers. Thus, in high-income countries, the gap in paid employment rates across educational levels is smaller (in the figure, markers for high-income countries are concentrated around the bisector and in the top right quadrant). Conversely, in low-income countries, paid employment is much less common, and workers with a basic or less than basic educational level rarely manage to secure paid employment jobs. However, in low-income countries, highly educated workers are as likely to be employees as they

are in high-income countries (which is very likely). Put another way, in low-income countries, people with an advanced educational level have a bigger premium in terms of working conditions (in the figure, markers for low-income countries are concentrated in the bottom right quadrant).

Paid employment rate (share of employees) by educational level (latest year available)

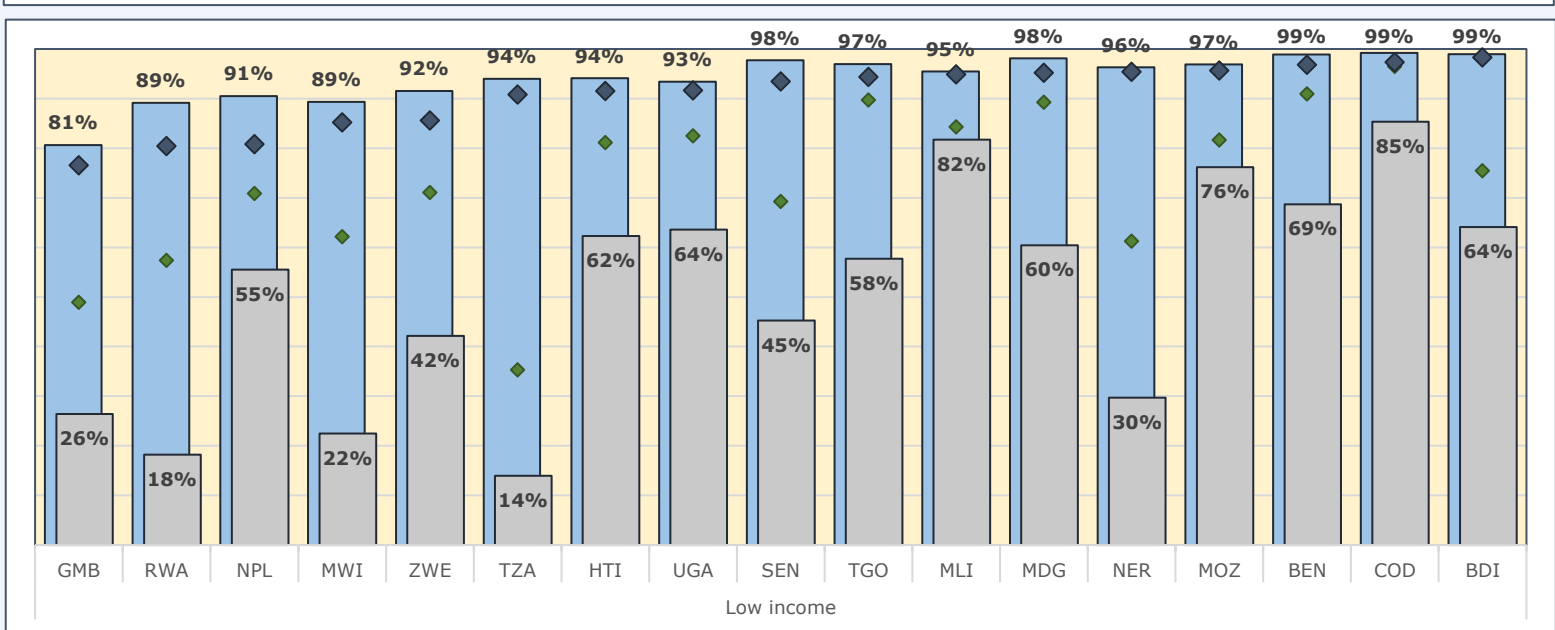
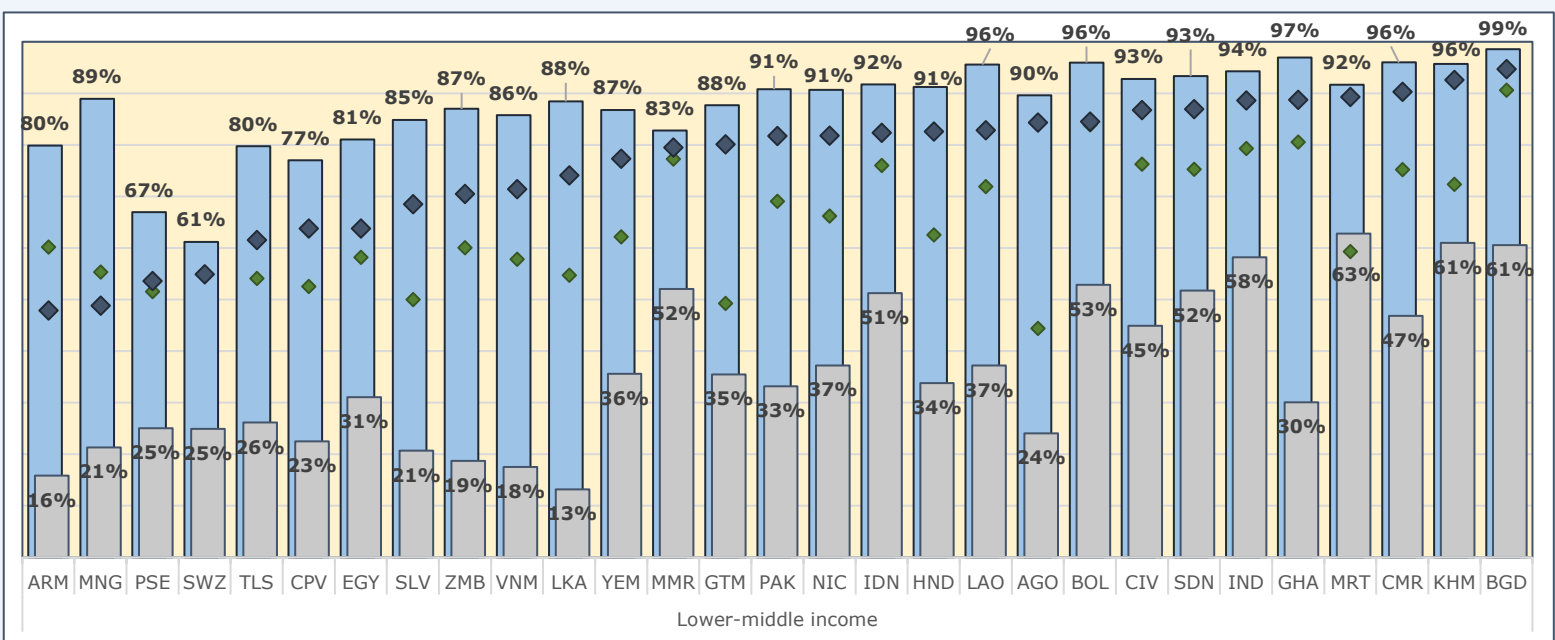
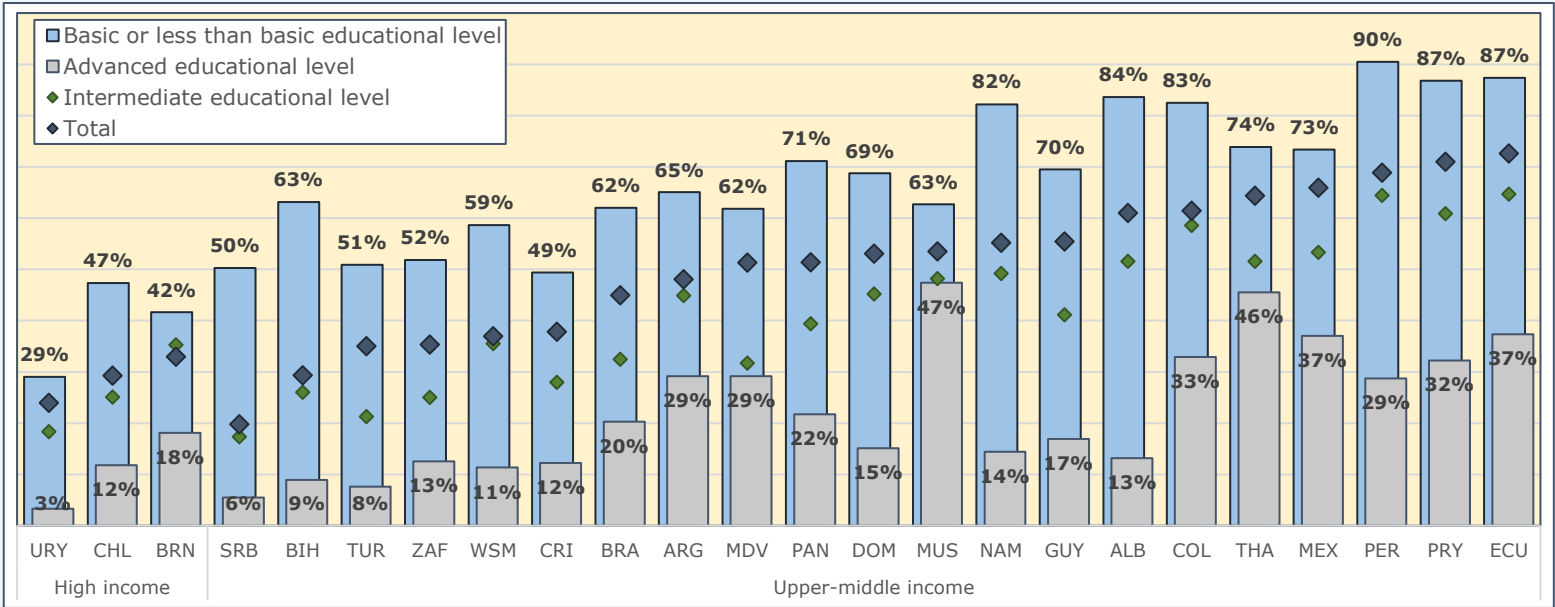


Source: ILO Harmonized Microdata collection.

Another key aspect of job quality is whether the job is formal or informal. Informality is strongly linked to the status in employment. Informal jobs are outside the scope of countries' labour legislation, which puts workers at a higher risk of vulnerability. Workers holding informal jobs are typically not covered by social protection and lack access to basic labour rights such as paid annual leave and sick leave. Informal employment refers to both workers in the informal sector and workers with informal jobs in the formal sector.

Studying the prevalence of informal employment among workers with different levels of educational attainment, there is a strong correlation between the educational level of the workforce and the likelihood of workers to access formal jobs. As shown in the figure on the following page, in all countries with available data (regardless of their level of national income), workers with advanced education have much lower informality rates than workers with a basic or less than basic educational level. That is, in poor and rich countries alike, education seems to facilitate workers' access to formal jobs.

Share of informal employment by educational level (latest year available)



Source: ILO Harmonized Microdata collection. ISO Alpha-3 country codes are used.

Furthermore, given that informality is more prevalent overall in low-income countries, once again, highly educated workers have a bigger premium in terms of working conditions compared to workers with a lesser educational level. In other words, the lower the country's level of income, the wider the gap between informality rates of workers with an advanced educational level and those with a basic or less than basic educational level.

Therefore, in low-income countries, highly educated workers may find it more difficult to find a job matching their skills, but once they do, the chances that it will be a formal paid employment job tend to be high. These workers' educational attainment will very likely allow them to secure quality jobs, even if that takes time. In low-income countries, workers with an advanced educational level may envy the lower unemployment rates of workers with a basic educational level, but this is certainly compensated by the much higher likelihood of workers with an advanced educational level of working as formal employees, and thus having higher quality jobs.

Conversely, in high-income countries, workers who do not even have an upper-secondary degree are more exposed to both unemployment and informality. They are more likely to be unemployed than highly educated workers, and when employed, they are less likely to be in formal paid employment.

But the status in employment and the formal or informal nature of jobs only give us an overall idea of job quality. What about the more concrete working conditions, such as earnings and working time?

Highly educated workers are more likely to have sufficient working time and adequate earnings

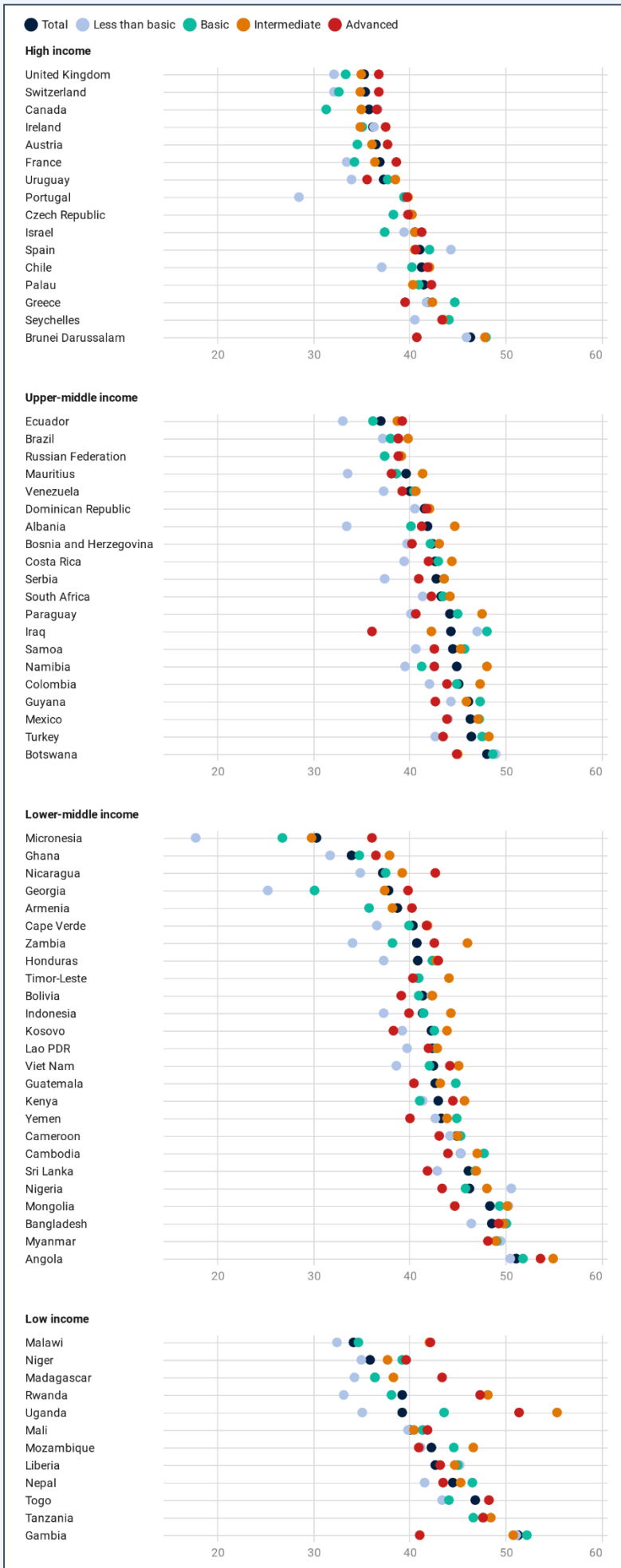
Earnings and working time are two important aspects of our working conditions. Decent jobs are adequately remunerated and have satisfactory working hours. Are highly educated workers better paid? Do they tend to work more or less hours than workers with a basic educational level?

Focusing first on the hours of work, we realize that, generally speaking, the higher a worker's level of educational attainment, the higher their average usual hours of work per week. What is more, this seems to be true around the globe, regardless of the country's level of income. The figure on the next page shows that in the majority of countries with available data (70 per cent), it is workers with either an advanced or an intermediate educational level who usually work the most hours per week on average. Furthermore, in 68 per cent of countries with data, workers with a basic or less than basic educational level usually work the fewest hours per week.

Moreover, in 79 per cent of countries with data, the share of workers working more than 40 hours a week is larger among workers with an advanced educational level than among those with a basic or less than basic educational level. This pattern is consistent across country income groups. Likewise, in 85 per cent of countries with data, the share of workers working less than full time (less than 35 hours a week) is larger among workers with a basic or less than basic educational level than among those with an advanced educational level (see figures on page 16).

All this suggests that with advanced education it is easier to secure more working hours, avoiding involuntary part-time work. This is also supported by the data available on the time-related underemployment rate, which depicts the share of employed who are working less than 35 hours a week although they are willing and available to work more hours. As shown in the figure on pages 17

Average hours usually worked per week by educational level (latest year available)

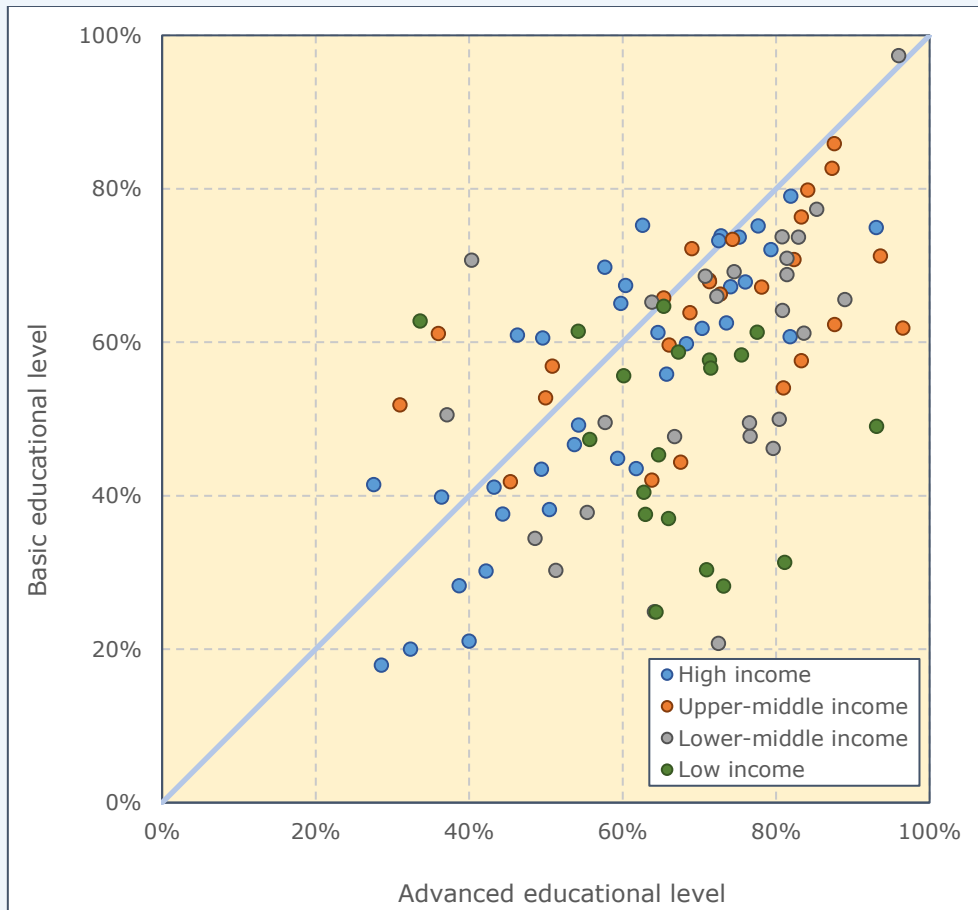


and 18, in most countries with data (82 per cent), the time-related underemployment rate is larger for workers with a basic educational level than for those with an advanced education. This means that workers with limited educational attainment are more likely to work less than full-time in spite of being ready and available to work longer hours.

Just like unemployment, time-related underemployment is a form of labour underutilization: they both refer to the existence of an untapped labour supply. We saw that at least in low-income countries, workers with the lowest levels of educational attainment typically manage to escape unemployment. However, they do not fare as well when it comes to time-related underemployment.

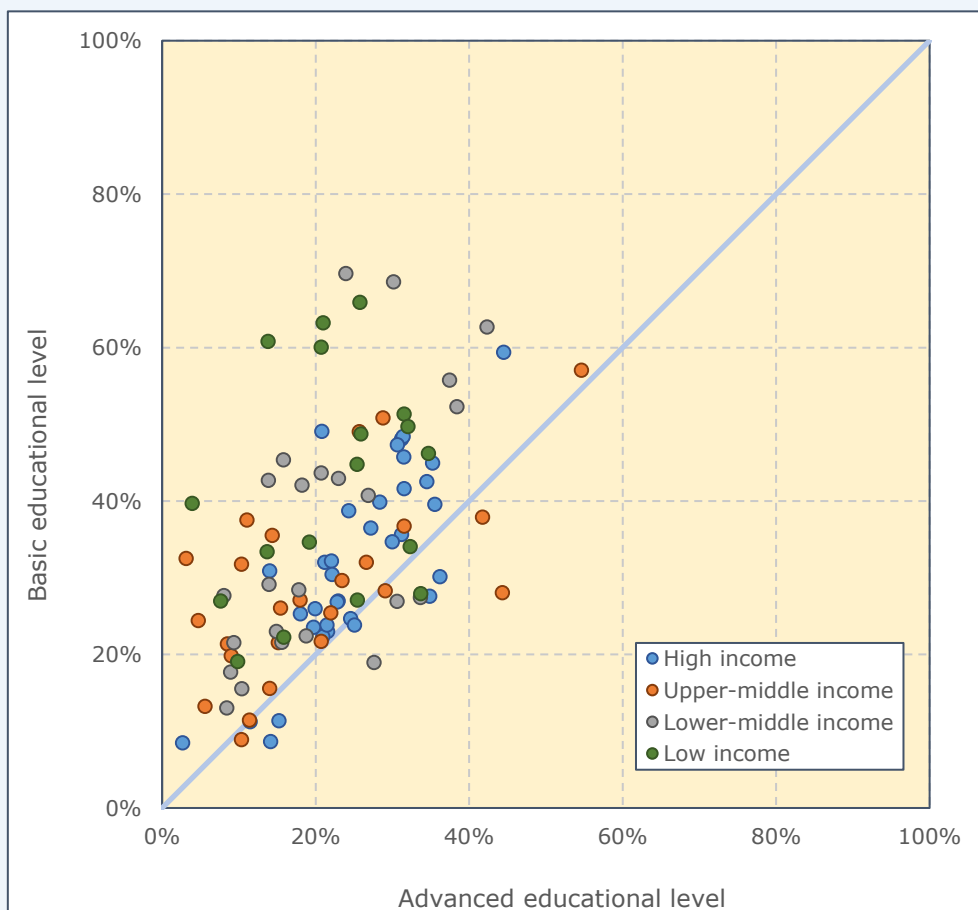
Difficulties in securing sufficient hours of work may put workers and their families in a strenuous situation. What our data show is that, around the world, this happens more often to workers who have not completed upper-secondary education.

Share of workers working more than 40 hours a week by educational level (latest year available)



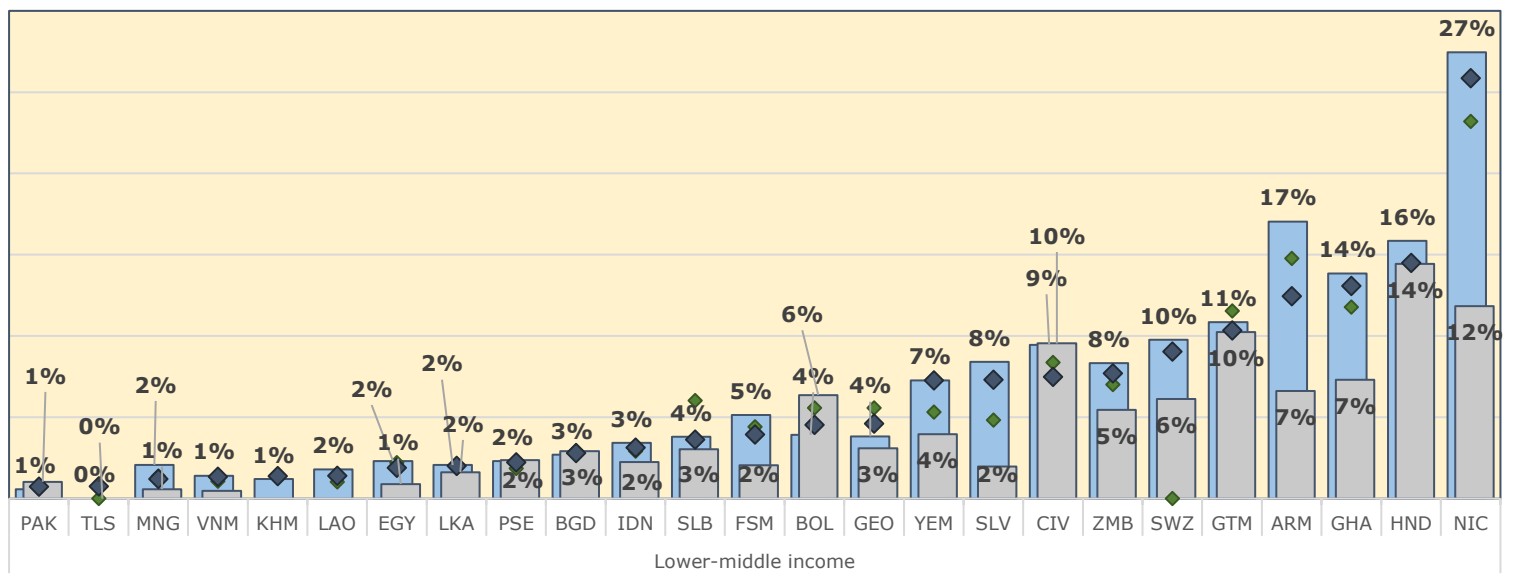
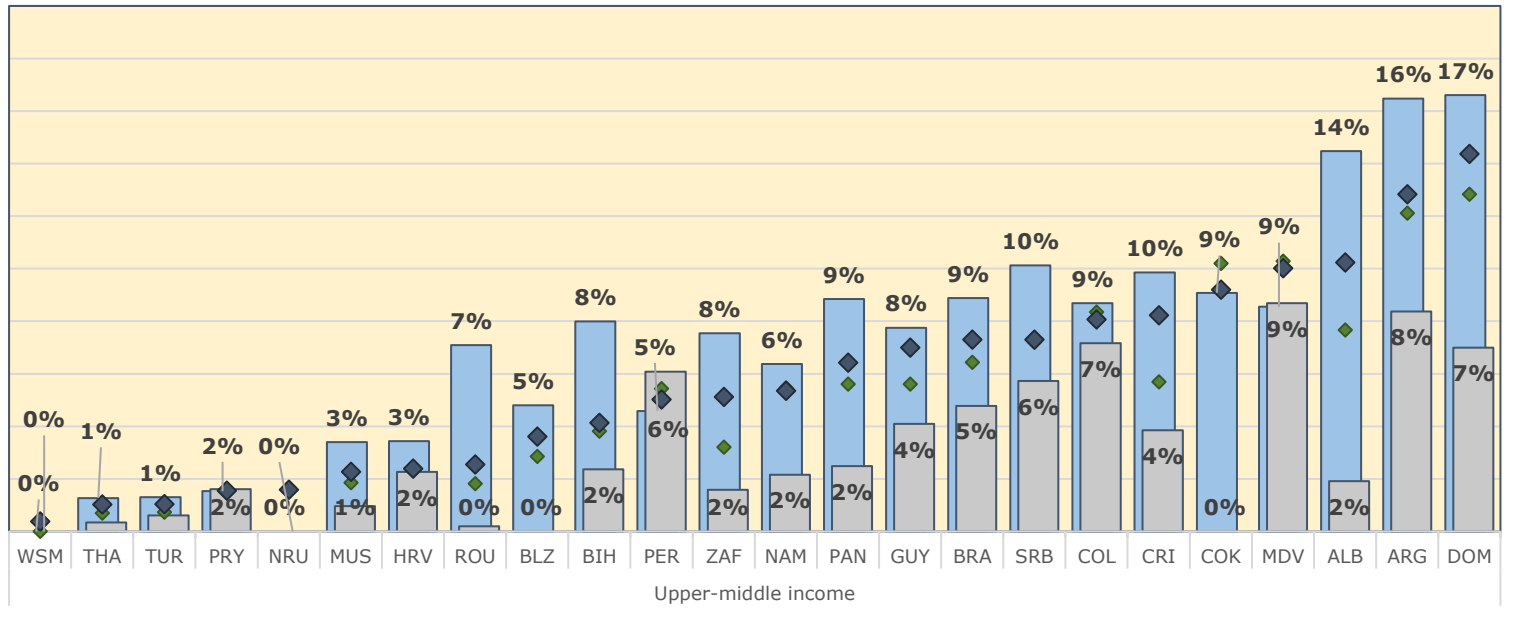
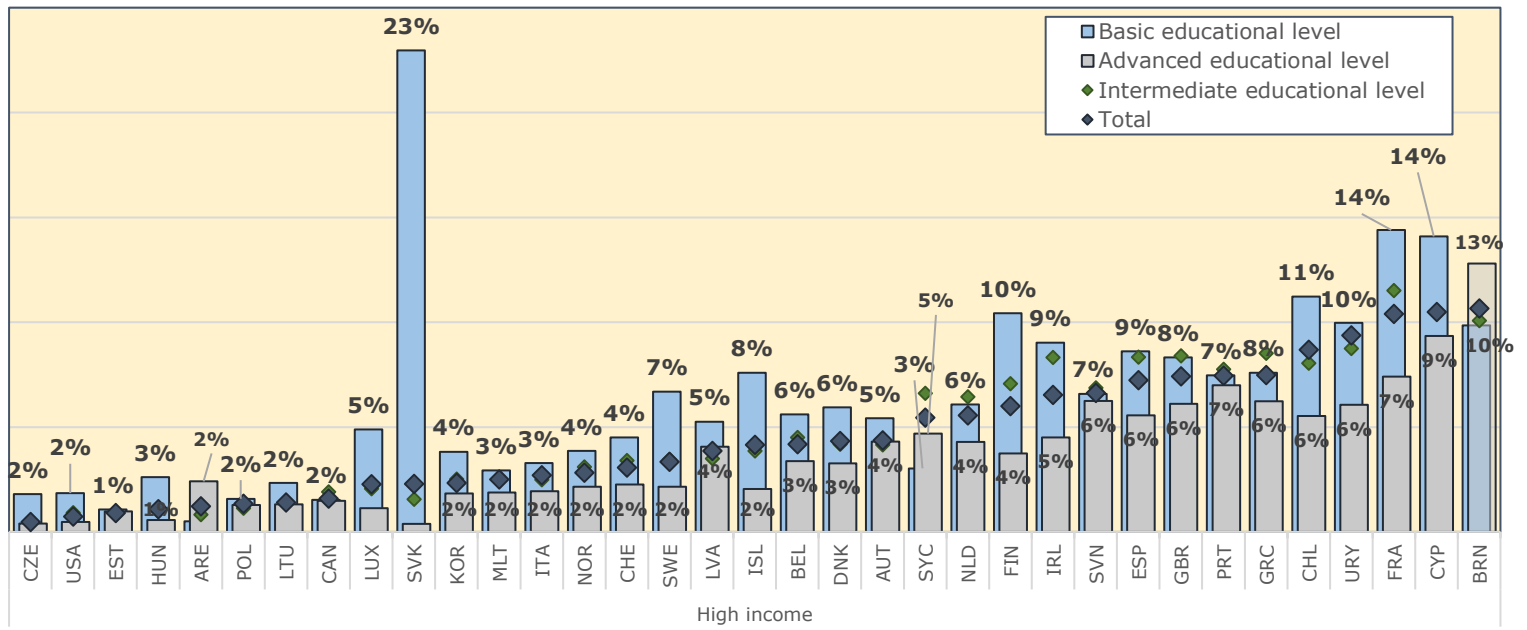
Source: ILO Harmonized Microdata collection.

Share of workers working less than full time (less than 35 hours a week) by educational level (latest year available)



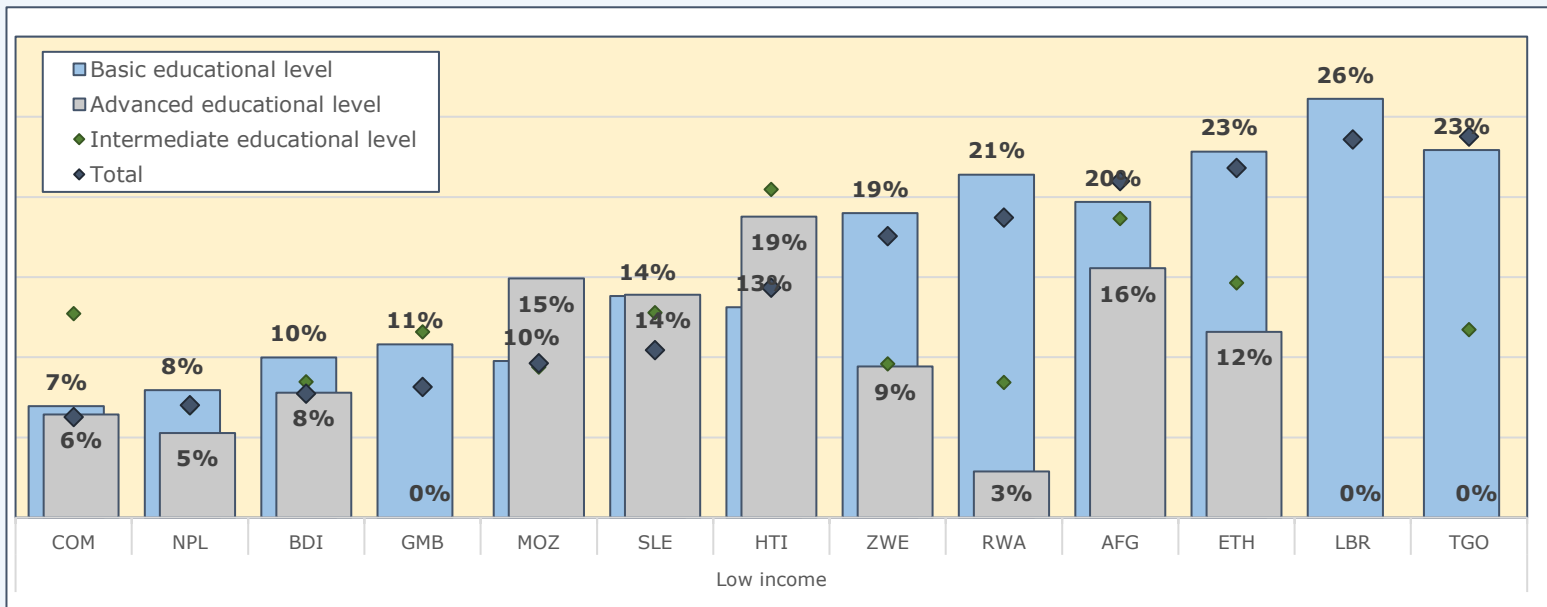
Source: ILO Harmonized Microdata collection.

Time-related underemployment rate by educational level (latest year available for each country)



Source: ILO Harmonized Microdata collection. ISO Alpha-3 country codes are used.

Time-related underemployment rate by educational level (latest year available for each country), continued



Source: ILO Harmonized Microdata collection. ISO Alpha-3 country codes are used.

And what about their hourly earnings? We now know that the labour income of workers with low educational attainment is affected by the lower number of hours they work compared to more highly educated workers, but are there also differences in hourly earnings? Do differences in hourly earnings add to the differences in working time, to further broaden the gap in living conditions across educational levels?

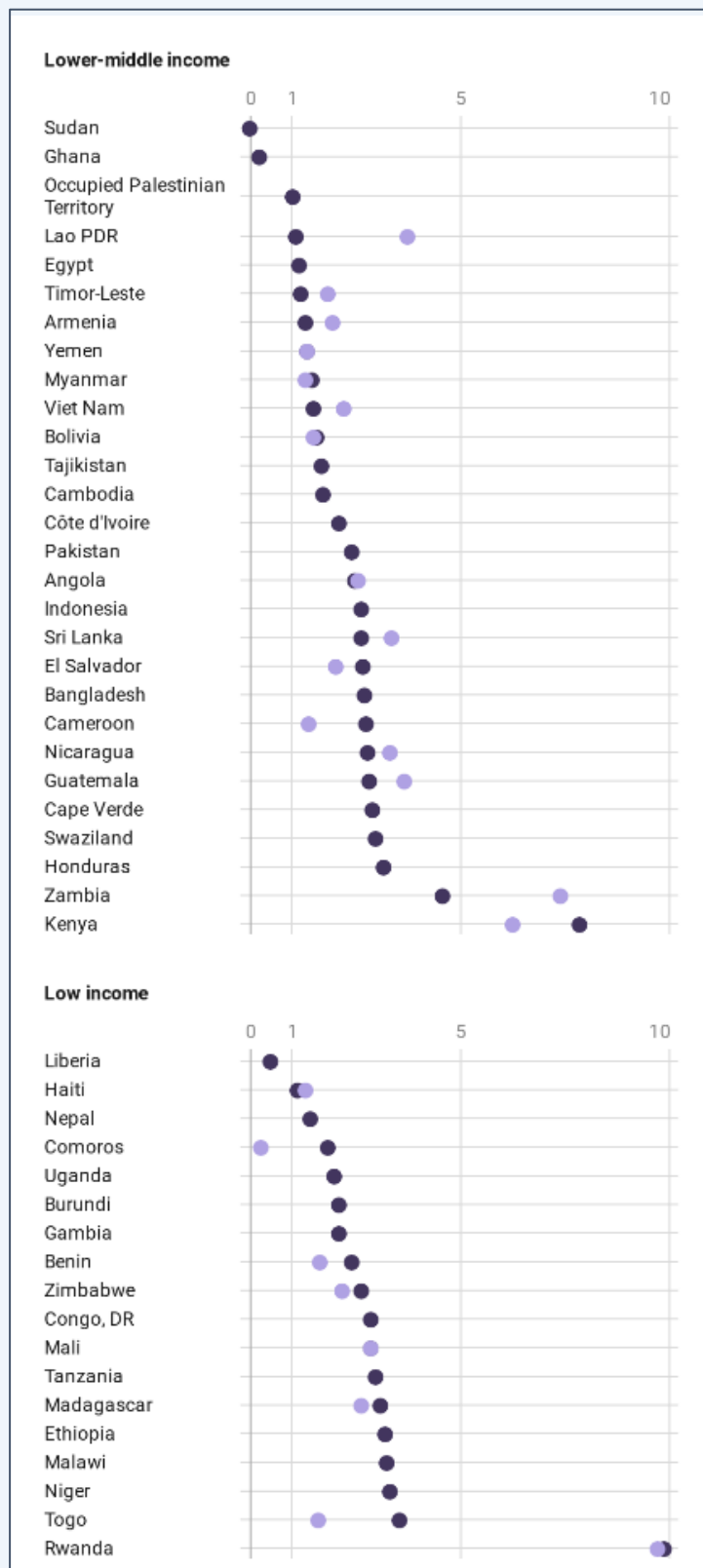
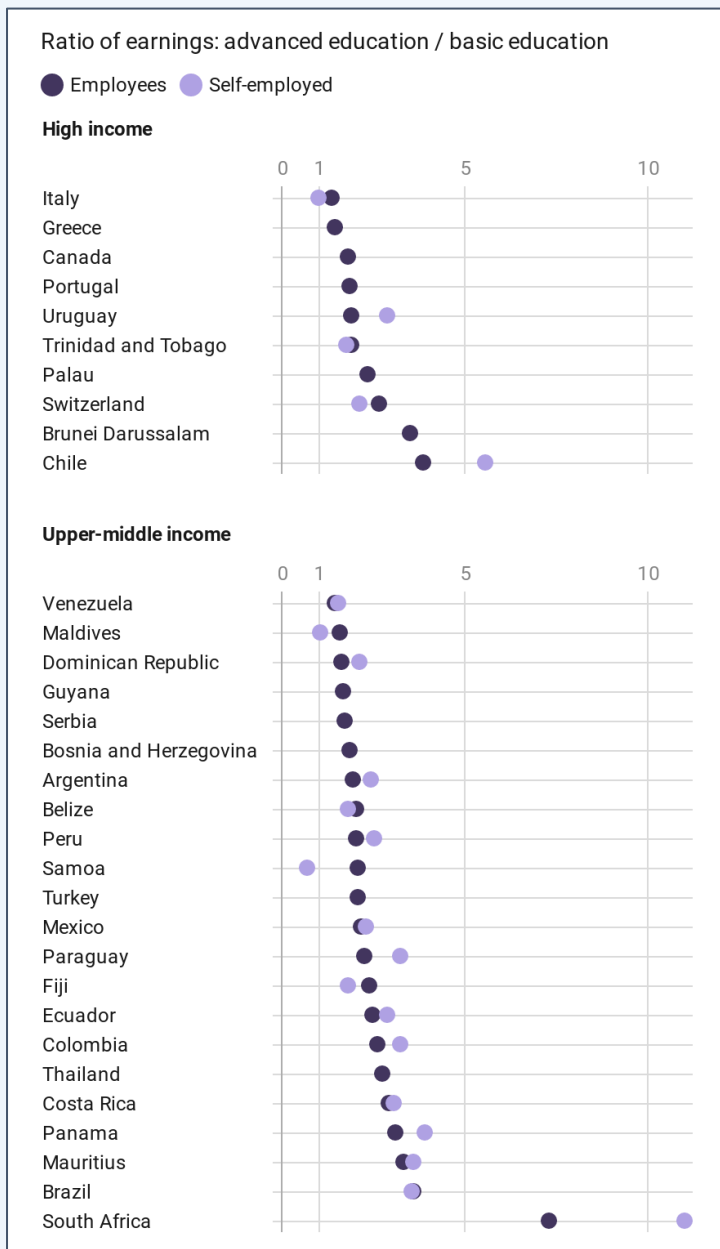
In short, yes. Household surveys are not the most reliable source of earnings statistics since they rely on how accurate the respondents are when stating their earnings. However, they do provide insights into how the earnings of workers with an advanced educational level relate (on average) to the earnings of workers with a basic educational level, as shown in the figure on the next page.

The ratio of earnings of workers with an advanced educational level to those of workers with a basic educational level gives us a clear idea of how the earnings of those two groups of workers compare. A ratio of one implies that on average, workers with an advanced educational level earn the same as those with a basic educational level. A ratio larger than one implies that workers with an advanced educational level earn more than those with a basic educational level, and conversely, a ratio smaller than one implies that those with an advanced educational level earn less than those with a basic educational level. The higher the ratio (above one), the bigger the premium in terms of earnings of highly educated workers compared to workers with a basic educational level.

We can produce this ratio for employees in 79 countries, and in all of them but 3 (Ghana, Liberia and Sudan), employees with an advanced educational level earn on average more than those with a basic educational level. We can also produce this ratio for self-employed in 46 countries and in all of them but 3 (Comoros, Italy and Samoa), self-employed workers with an advanced education earn more on average than those with a basic education.

The difference in earnings is very steep in some countries in particular: in Kenya, Namibia and South Africa, employees with an advanced educational level make on average more than five times the earnings of those with a basic educational level, and in Rwanda, they make ten times the earnings of their lesser educated colleagues.

**Ratio of earnings of workers with an advanced educational level to those of workers with a basic educational level
(latest year available)**



Source: ILO Harmonized Microdata collection.
Created with Datawrapper.

Generally speaking, workers with a tertiary degree benefit from better working conditions in terms of working time and earnings than those who have not even completed upper-secondary education. This is true around the globe, irrespective of the country's income group. This, added to the highly educated workers' larger likelihood of accessing formal paid employment jobs, suggests that workers with tertiary education have a considerable advantage when it comes to job quality compared to workers with a basic or less than basic educational level.

Concluding remarks

The impact of workers' level of educational attainment on their labour market outcomes depends on the country's stage of development and level of income, which determine the characteristics of the local labour market and the type of job opportunities available.

In high-income countries, the level of sophistication of the economy and the labour market is such that skilled jobs abound, at least in comparison to unskilled jobs. Therefore, workers with a basic or less than basic educational level struggle to find jobs for which they would qualify. Indeed, in most high-income countries with data, the unemployment rate is higher for workers who have not completed upper-secondary education than for workers with an advanced educational level.

Economies in low-income countries, on the other hand, tend to be more agrarian in nature. The other predominant economic activities, aside from agriculture, are typically manufacturing and trade. Thus, in low-income countries, skilled jobs are not abundant, given the configuration of the economy. This is why workers with an advanced education in low-income countries often find it difficult to secure jobs matching their skills and are frequently concentrated in the public sector. Indeed, in low-income countries, workers with a tertiary degree have in general higher unemployment rates than workers who have not completed upper-secondary education.

However, this is compensated in terms of job quality once they do find a job: generally speaking, workers with an advanced educational level earn more and are more likely to be in paid employment, to have a formal job, and to have sufficient working time than workers with the lowest levels of educational attainment. This is true in low-income and high-income countries alike.

Nonetheless, it is necessary to highlight that correlation does not imply causation. In general terms, the higher a worker's educational level, the better their working conditions (especially in terms of status in employment, formality, working time and earnings). But this does not necessarily mean that it is solely the advanced educational level of highly educated workers which leads to their improved working conditions. There may be other factors at play, and there may be common factors driving both workers' educational level and their employment quality. In other words, it may not only be education driving labour market outcomes, but there may be conditions favourable for people to both pursue higher education and get quality jobs.

