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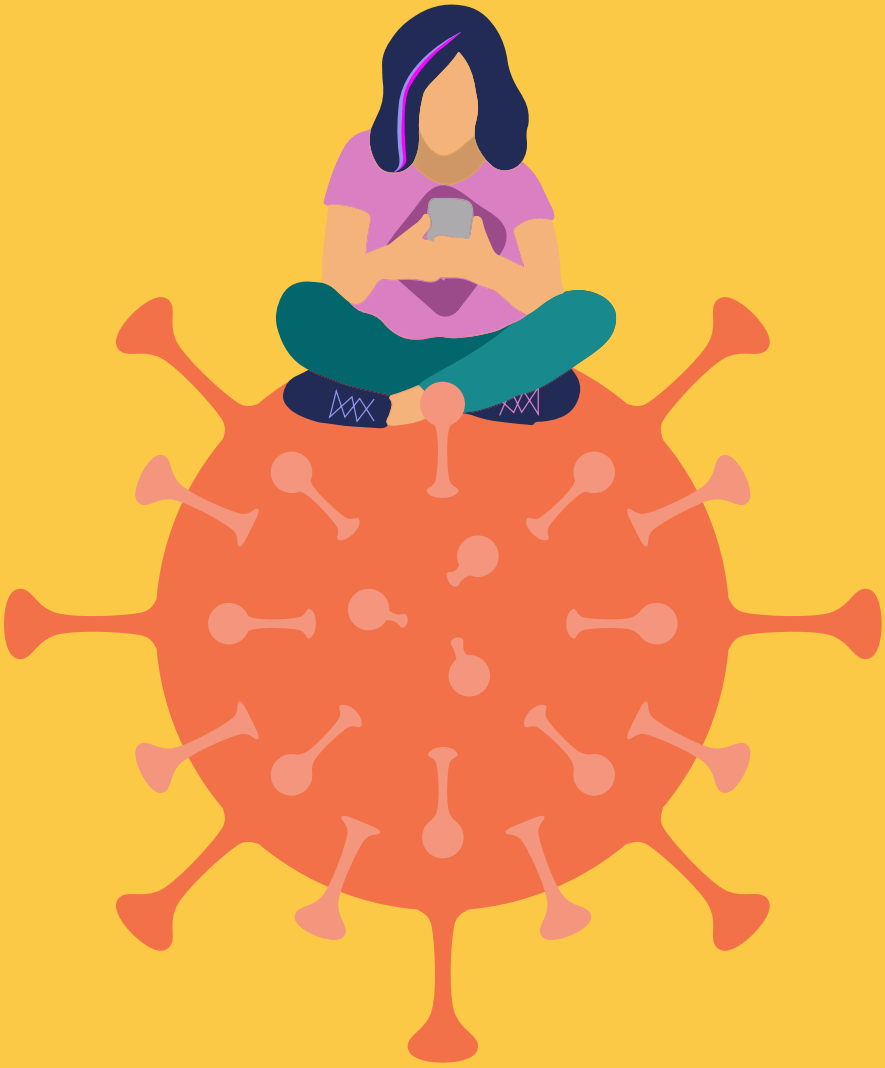

Corona Generation

Growing Up in a Pandemic

MARCH 2021

WARSAW

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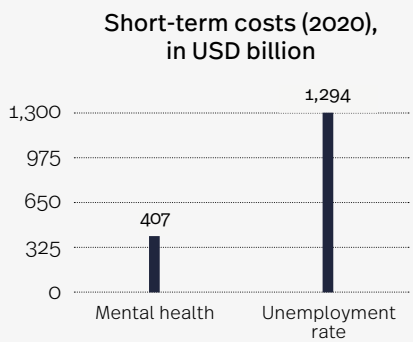
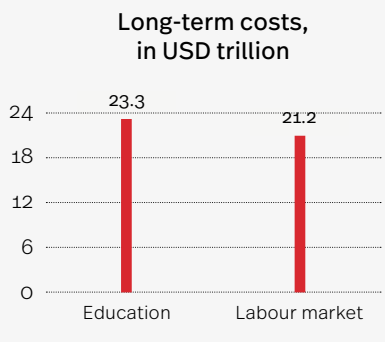
Key numbers

TOTAL	USD 1.7 trillion	global short-term costs of COVID-19 for young people
	USD 44 trillion	global long-term costs of COVID-19 for young people
EDUCATION	USD 550	less per year earnings of young workers due to lower returns to education
	6.2%	lower future wages of young people in education today due to lower returns to education
HEALTH	USD 407 billion	per year costs of COVID-19 relating to young people's mental health
LABOUR MARKET	USD 1 trillion	per year money lost due to permanent unemployment due to COVID-19
	4.0%	lower wages of young people employed today over 15 years





Executive summary

→ **The costs of COVID-19 for the Corona Generation were measured in three areas:** education, health and the labour market. The losses are expressed as short- or long-term. In terms of short-term losses, the pandemic's total impact is USD 1.7 trillion, including a USD 407 billion increase in mental health costs and 1,294 billion in lost earnings caused by the rise in youth unemployment. In the long term, the global cost of COVID-19 will reach USD 44 trillion. One dimension refers to education, where the deterioration of schooling as a result of school closures will lower future earnings – by USD 21 trillion globally during a 45-year career. Another longterm dimension taken into account is the labour market, with total output considered based on two indicators: the increase in permanent unemployment due to the crisis, which will lead to USD 15.5 trillion in lost earnings, and the decrease in young employees' earnings, which will amount to USD 5.7 trillion over 15 years.

EDUCATION

→ **On average, young people's future earnings will be an estimated 6.2% lower due to the impact of COVID-19 on education.** Nominally, young people in education during the crisis will lose USD 550 a year in earnings as employees in the future. For individuals in high-income economies, the net present value loss in earnings each year is USD 750. In lower-middle economies, it is USD 510, in upper-middle ones it is USD 420 and in low-income ones it is USD 400. By region, young people in Europe and Central Asia (USD 817) as well as in East Asia and the Pacific (USD 654) will lose the most, followed by North America (USD 589) and Sub-Saharan Africa (USD 484), South Asia (USD 465), the Middle East and North Africa (USD 326) and Latin America and the Caribbean (USD 302). If every young person employed in the future is counted, the annual global wage loss will reach USD 465.8 billion, over 0.5% of global GDP. Taking into consideration the whole working lifecycle (45 years), COVID-19 will result in young people earning almost USD 21 trillion less. **Return to schooling was used to estimate the impact of COVID-19 on education.** In other words, the author checked how, in the long term (45 years), COVID-19 would affect the key factor determining the professional status and earnings – education. The expected decrease mainly depends on three issues shaped by the pandemic: the length of

school closures, the consequences of remote lessons (which research suggests are less effective than classic ones) and the return to education in terms of gender and education attainment, which is specific to each country.

HEALTH

→ **The overall annual increase in costs due to COVID-19-related mental health problems among young people is estimated at 0.49% of GDP worldwide.** Nominally, this equates to more than USD 407 billion: USD 185.5 billion in direct spending on health systems, USD 79.6 billion on social security programmes and a further USD 141.9 billion in indirect costs related to lower employment and lower productivity. By region, the estimated costs of COVID-19 related to mental health problems range from 0.53% of GDP in the Middle East and Africa, to 0.52% of GDP in East Asia and the Pacific, 0.49% of GDP in Europe and Central Asia, 0.44% of GDP in North America, 0.41% of GDP in Latin America and the Caribbean to 0.38% of GDP in South Asia. In terms of income, the lowest impact will be observed in the high-income group (0.54%), followed by countries in the low level (0.51%), lower-middle (0.48%) and upper-middle groups (0.43%). **The estimated impact of COVID-19 on mental health is based on direct and indirect healthcare costs.** A few pieces of information set the direction of the analysis. More than 60% of entities reported disruptions in the provision of mental health services to vulnerable people, including children and adolescents (72%), the elderly (70%) and women in need of antenatal or postnatal care (61%). Moreover, 67% saw disruptions in counselling and psychotherapy, 65% in critical harm reduction services and 45% in the opioid agonist maintenance treatment of opioid dependence. 30% reported disruptions in access to drugs for mental, neurological and substance-use disorders.

LABOUR MARKET

→ **COVID-19's short-term impact on the labour market cost young people USD 1.29 trillion in 2020, while the long-term impact over 15 years will reach USD 21.2 trillion globally.** The deepest negative repercussions in the short run were felt in East Asia and the Pacific (USD 588.9 bn) and North America (USD 442.3 bn). In contrast, the lowest 2020 impact was observed in the Middle East and North Africa (USD 22.3 bn), South Asia (USD 29.6 bn) and Latin America and the Caribbean (USD 33.6 bn). It was higher in Sub-Saharan

Africa (USD 74.7 bn) as well as in Europe and Central Asia (USD 103.0 bn). The long-term losses caused by the worsening permanent unemployment are USD 15.5 trillion, while those caused by the decrease in earnings are USD 5.7 trillion. This means that wages will be around 4% lower. At the individual level, young employees will lose USD 1,610 a year on average –USD 1,879 among women and USD 1,452 among men. **COVID-19's impact on the labour market was estimated based on the short- and long-term repercussions.** The immediate consequence was the increase in youth unemployment in 2020, while the losses over several years (an assumed number of 15) will comprise the wage decrease and permanent unemployment. According to the literature, starting one's working life during a recession can affect labour market entrants for years; in some cases, well into middle age. A negative start on the labour market also has a lasting social impact on factors such as fertility, marriage and divorce, criminal activity, attitudes and risky alcohol consumption. Some evidence suggests that early exposure to a labour market crisis worsens health and increases middle-aged mortality, with earnings gaps reopening.

KEY RECOMMENDATION

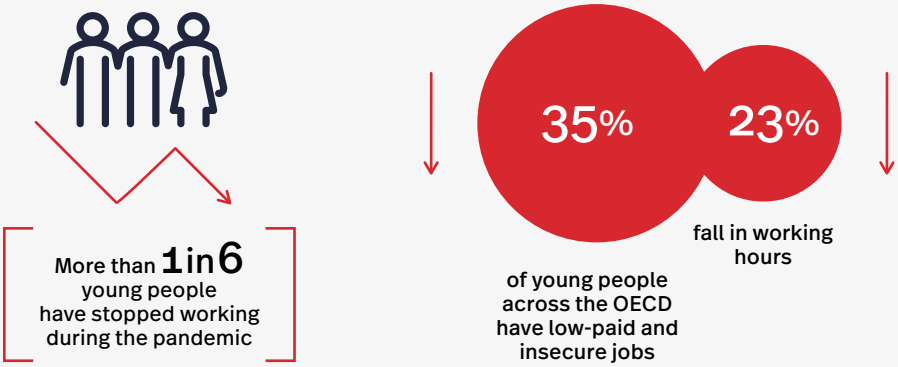
- **If we want to avoid a lost generation, we cannot save.** History has seen a lost generation. It was made up of young people who came of age during World War I and in the 1920s. If we want to avoid a repeat of this scenario and save young people from becoming a lost generation due to COVID-19, we must provide sufficient financial support and restore the status quo, at least.
- Firstly, higher outlays are needed to make up for losses in the return to education to protect young people's future earnings. Developing a strategic programme for catching up in terms of knowledge, skills and qualifications to maintain a strong position on the labour market will be essential.
- Secondly, an increase in spending on mental health is crucial. The pandemic has highlighted the underfunding of this area of care amid growing demand for these services. An important (including preventive) role here is played by school and university staff, whose availability must be ensured.
- Finally, employment costs need to be subsidised. Long-term unemployment can lead to job losses and have a detrimental effect on future employment, especially after crisis periods when employment growth is slow and cannot match high levels quickly. This problem should be addressed with labour market policies targeting the unemployed and young people seeking retraining. Money will not solve everything, but it provides a foundation for other actions mitigating the effects of the pandemic.

Introduction

Crises define generations. Many baby boomers remember the assassination of President Kennedy or where they were on September 11, 2001. In the same way, the young generation affected by the coronavirus will remember it, but through the lens of different life stages. The difference between the impact of COVID-19 on the young generation and others lies in the relative youth of generations Z and late Y. People in generation Z in particular are at a point in their lives when their views and trajectories are being shaped, increasing the impact of the pandemic (Dorsey, 2020). It is also their first major global event, so they lack a benchmark for how to respond or move forward in the way that older generations often do. Already, the pandemic has wrecked Generation Z's education, mobility and personal finances.

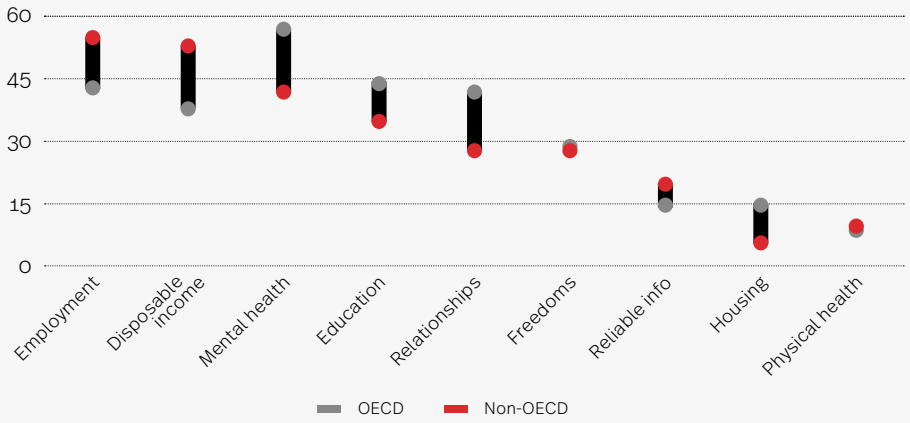
The COVID-19 pandemic could go down in history as a war of sorts – a major factor, called a period event, that demographers use to help define generations, according to Pew Research Center (2015). School closures have affected 1.6 billion young people worldwide and significantly changed how they live and study (UN, 2020). Learning at school is not only about what takes place in the classroom. It is also about social gatherings which are an essential part of childhood development and later influence socialisation. One can therefore expect a decline in social skills among the young generation as a consequence of the pandemic. There is no doubt that COVID-19 is causing additional stress, anxiety and loneliness (Etheridge and Spanting, 2020), which not everyone can handle on their own. Hence a significant increase in demand for psychological care should be expected, especially when we take into account the critical role of social in the life creation process, which has a remarkable impact on young people's relationships.

The coronavirus deprives the eldest people of their lives, but it will also have a huge impact on young people's life chances. Apart from its direct impact on human biology, the virus also has the potential to create a generation of socially awkward, insecure and unemployable young people (Patel, 2020). According to the United Nations' International Labour Organisation, more than one in six people between the ages of 18 and 29 have stopped working since the beginning of the pandemic. Those who have not lost their jobs have seen their working hours fall by 23% (ILO, 2020e). For the generation that came of age during the aftermath of the 2008 financial crisis, this is a particularly heavy blow. Now, just over ten years later, they face an even tougher prospect: an economy in lockdown and a severely disrupted job market, with no real end to the uncertainty in sight. Low-paid and temporary employment in the sectors most severely affected by the crisis (e.g. restaurants, hotels and the gig economy) are often held by young people, who now face a higher risk of job and income loss. On average, 35% of young people (aged 15–29) across the OECD work in low-paid and insecure jobs, compared to 15% of middle-aged employees (30–50) and 16% of older workers (51 and above) (OECD, 2019).



Young people worry about the toll on mental health, employment, disposable income and education. While the pandemic's trajectory varies between countries, most governments have implemented social distancing, lockdowns and social isolation measures to contain the spread of the virus. In this context, youth organisations were most concerned about the impact of COVID-19 on mental wellbeing, employment, income loss, disruptions in education, familial relations and friendships, as well as restrictions on individual freedom (Figure 1). A significant share of respondents also expressed concerns about access to reliable information.

↘ Figure 1. Young people's concerns during COVID-19 (% respondents aged 15–29)



Source: prepared by PEI based on OECD (2020b).

Motivation and the aim. This paper aims to estimate the costs generated by COVID-19 in 2020 among young people and forecast short- and long-term expenses. It measures the Corona Generation's past and future situations in three dimensions: education, mental health and the labour market. Due to the choice of these areas, the focus is on young people broadly understood, from the first school years to employees who are still relatively young, up to 34 years of age.

Both short- and long-term costs are considered. The discussion of the calculated costs in each of the three issues is followed by proposals for interventions and policy actions. The underlying belief is that warning the authorities of the high expected costs for the young generation and providing these recommendations will help minimise COVID-19's negative impact on young people. The recommendations aim to restore the status quo. Hopefully, this paper will provide a starting point for a global discussion on local priorities and strategies for avoiding a lost generation.

Structure and content. The paper has three main parts, corresponding to the tripartition of the costs analysed (education, health and labour market). Firstly, it measures COVID-19's impact on the quality of education as well as how remote lessons shape the return to schooling. The final costs are expressed as lost earnings, with a longer-term estimate. Secondly, it presents the pandemic's impact on mental health among young people. The final results cover the costs in 2020, a short-term perspective. However, the results can be extended to the coming years. Thirdly, the paper analyses COVID-19's impact on the situation of young people on the labour market. The estimated costs are both short- and long-run. The estimates cover both direct costs – lost earnings in 2020 caused by youth unemployment due to COVID-19 – and forecast costs reflecting salary decreases among young employees and permanent unemployment. Each section contains an introduction, an explanation of the calculation method and the source of data, the estimation results and a closing section with a summary policy-action proposal. The paper closes with a recapitulation of major findings.

Limitations of the analysis. The paper identifies the negative effects of the pandemic in the three selected areas. Meanwhile, there are many positive aspects. For example, the number of road accidents among members of the young generation has certainly decreased, air quality has improved, there have probably been fewer school fights, the possibility to sleep more peacefully, strengthen family ties and have better contact with one's children. The demand for some professions (IT specialists and logistics specialists, broadly understood) has increased exponentially. People have had more time, without the time-consuming and burdensome commutation and unnecessary cosmetic procedures. The flexibility of time management has increased ('larks' work in the morning and 'owls' at night). In education, the level of stress associated with tests and exams has been reduced. There is also hope that exams are now more focused on testing thinking rather than on rules and definitions (now super easy to copy). The problem in terms of analysis is how the three selected fields overlap, primarily in the labour market. The negative effects in education are transferred to the labour market through the 'Mincerian' channel; the same applies to the negative health consequences. This raises concerns about the 'double counting' effect in the quantitative estimates.

The impact of COVID-19 on education

BACKGROUND

Education is critical for economic growth and reducing poverty (Montenegro and Patrinos, 2014). A quality education system produces workers for the global economy and expands knowledge. Schooling enables students to acquire knowledge and skills that drive individual labour productivity. A host of social and non-market benefits are also produced, including increased child wellbeing, health, efficient consumer choices and social capital (Putnam, 2000). COVID-19 has hit education around the world, which will cause significant disturbances for pupils at various levels.

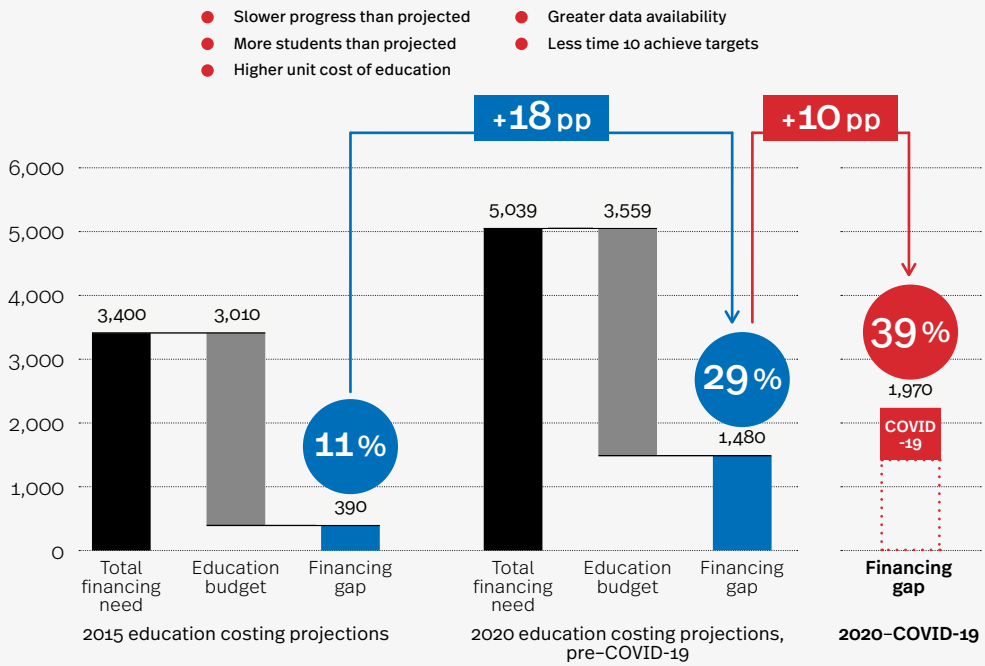
Learning progress has declined significantly during the crisis. No-one can accurately predict how school closures will affect the future development of children, but existing research has looked at how school attendance and school outcomes affect job opportunities and economic development (Hanushek and Woessmann, 2020). Little is known about the effectiveness of home learning for an entire school-age population and what this means for the development of skills. However, in a number of countries, there are indications that many children have had few effective teaching methods. Apparently, there has been hardly any education for a significant proportion of pupils during school closures. For example, early tracking data from an online maths app used in many pre-COVID-19 school districts in the US suggests that students' learning progress declined significantly during the crisis, especially at schools in low-income areas (Chetty et al., 2020). In Germany, a study of parents of school-age children shows that the amount of time children spend doing schoolwork each day halved during the COVID-19 school closure period, from 7.4 to 3.6 hours (Woessmann, Freundl, Grewenig et al., 2020). Moreover, many studies show that learning is a dynamic process that relies on prior learning, so stagnation leads to increasing deficits. Closed schools not only transmit less new knowledge (Oreopoulos and Salvanes, 2011; Hanushek, 2014), but also mean the loss of acquired skills on which further learning can be built (Kuhfeld et al., 2020).

There is no direct evidence of a typical loss of achievement. Different researchers have adopted different approaches to estimating loss of achievement (Azevedo et al., 2020; Dorn et al. 2020; Kuhfeld et al., 2020). To determine the extent of economic loss, it is helpful to start with a simple relationship between school years and normal academic progress. When comparing the benefits of learning from different tests and exams, they can be expressed in units of the standard deviation of scores in relevant test populations. A rough rule of thumb, found by comparing learning on tests designed to track performance over time, is that students on average learn about one-third of a standard deviation per school year (however, this has not been researched extensively and is likely to vary according to form/grade, position in the test distribution and other factors). For example, losing a third of the school year would correspond to approximately 11% of the standard deviation of the lost test scores (i.e. 1/3 x 1/3) (Hanushek and Woessmann, 2020).

Extensive literature covers how extra years of study affect labour market incomes. The strong correlation between years of study and earnings is perhaps one of the most solid findings of all empirical economic research. The numerous studies that focus on identifying the causal impact of extra years of study are quite consistent with a simple relationship estimate (Card, 1999, 2001; Harmon, Oosterbeek and Walker, 2003; Heckman, Lochner and Todd, 2006; Psacharopoulos and Patrinos, 2018; Gunderson and Oreopoulos, 2020). The possible consequences of lost school years are in line with the literature cited above: roughly each school year is associated with a 10% increase in income on average in many countries.

Limited costs of COVID-19 on educational arrangements so far. Before the pandemic, the world already faced formidable challenges with regard to fulfilling the promise of education as a basic human right. Despite near-universal enrolment in early forms in most countries, an extraordinary number of children – more than 250 million – were out of school (UNESCO, 2019) and nearly 800 million adults were illiterate (UNESCO, 2017a). Moreover, even for those at school, learning was far from guaranteed. Some 387 million, or 56%, of primary-school-age children worldwide were estimated to lack basic reading skills (UNESCO, 2017b). In terms of financing, the challenge was already daunting before COVID-19. The early 2020 estimate of the financing gap to reach Sustainable Development Goal 4 – quality education – in low- and lower-middle-income countries was a staggering USD 148 billion a year (UNESCO, 2020d). It is estimated that the COVID-19 crisis will increase this financing gap by up to a third (UNESCO, 2020c), by USD 0.5bn (Figure 2).

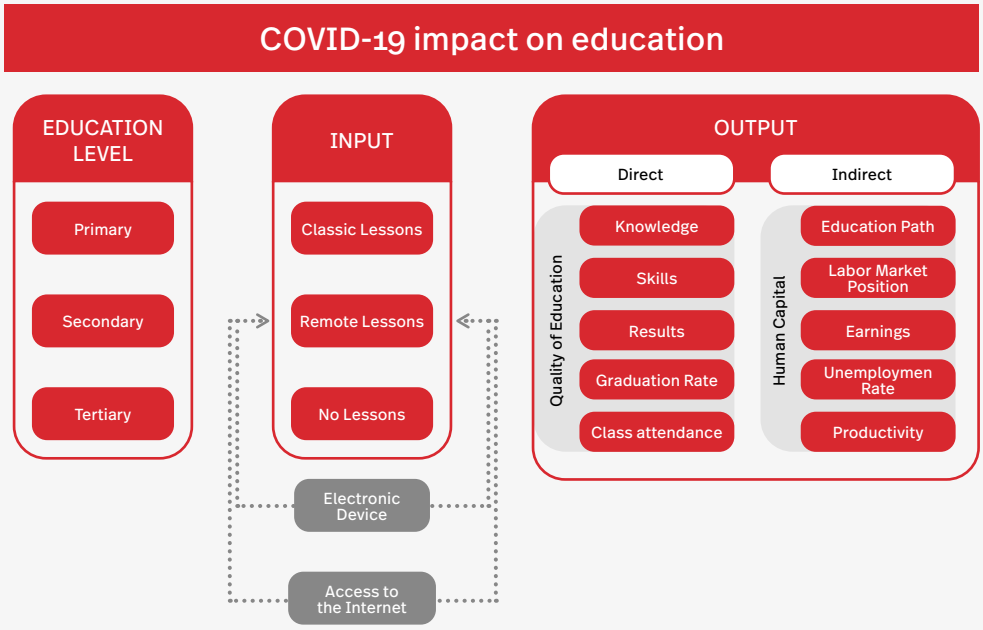
↘ Figure 2. Pre-COVID-19 financing gap to reach SDG 4 (in millions of USD)



Source: prepared by PEI based on UNESCO (2020c).

Measurable effects of COVID-19 on education. First of all, the pandemic affects each level of education (primary, secondary and tertiary) differently. Secondly, we should define how we understand the COVID-19 input and output using a proxy. There are vast possibilities; however, taking into account the available data and measurable indicator, the pandemic input is understood as a consequence of the decision of closing schools and universities. Hence, we can distinguish between three situations: from no closure, with classic lessons and no impact, to full closure of educational institutions and the introduction of remote learning. Important factors shaping pupils' and students' situation and future educational consequences are access to electronic devices, and to the Internet and mobile networks. Evidence shows that these are crucial for minimising learning loss when schools close (Angrist, Bergman and Matsheng, 2020). The third, in-between strategy is the partial closure of schools. When it comes to measurable output, two types of consequences are considered: direct and indirect. Direct impact refers to current aspects of the learning process and changes in the quality of education. It includes gaining knowledge, skill and competences, as well as results, class attendance, graduation rate and so on. Indirect output concerns changes in benefits from education, especially earnings, as a proxy for measuring the impact of COVID-19. Other effects include human capital, influence on changes in educational path and the unemployment level. The figure below summarises this impact (Figure 3).

↘ Figure 3. How COVID-19 affects education



Source: prepared by PEI.

Rate of return on investment in education. The basic concept used in this analysis refers to the rate of return on investment in education, which is very similar to that for any other investment. It is a summary of the costs and benefits of the investment incurred at different points in time, expressed as an annual (percentage) yield like that quoted for savings accounts or government bonds. Returns on investment in education based on human capital theory have been estimated since the late 1950s. Human capital theory suggests that investments in education increase future productivity (Psacharopoulos and Patrinos, 2018).

Studies on the relationship between schooling and labour market outcome. The examination of the relationship between schooling and earnings has led to a number of empirical studies on a variety of social issues. These include racial and ethnic discrimination (McNaab and Psacharopoulos, 1981; Chiswick, 1988), gender discrimination (Goldin and Polacheck, 1987), income distribution (Mincer, 1958), the determinants of the demand for education (Freeman, 1976), the impact of technology on wage differentials (Krueger, 1993), the impact of unexpected price, productivity and technology shocks (King, Montenegro and Orazem, 2012), the impact of information on demand for schooling (Jensen, 2010) and the return to schooling in the context of job creation (World Bank, 2012). Under certain assumptions, earnings differentials by level of education have been used to identify sources of economic growth. Yet the quintessential application has been estimating the rate of return for investment in schooling. Workers' earnings, classified by some dimension, have been at the core of empirical economics and other social sciences for many decades, starting with human capital theory (Schultz, 1961; Becker, 1964; Mincer, 1974). The popularity of estimating the return to education stems from the resulting efficiency, equity and financing implications. The rank order of returns to a level or type of education, and a comparison with the returns on alternative investments, can help education policymakers make informed investment decisions (Psacharopoulos and Patrinos, 2018).

Key findings on the return to schooling so far. For 50 years, researchers (Psacharopoulos, 1972, 1973, 1985, 1989, 1994; Harmon, Oosterbeek and Walker, 2003; Psacharopoulos and Patrinos, 2004; Banerjee and Duflo, 2005; Colclough, Kingdon and Patrinos, 2010; Psacharopoulos and Layard, 2012; Montenegro and Patrinos, 2014; Psacharopoulos et al., 2020) have reported on the patterns of estimated returns to schooling across developing economies. The returns are typically in the form of an estimated proportional increase in an individual's labour market earnings with each year of schooling completed. Of the consistent findings across various surveys, the top 10 are:

1. Private returns to schooling are generally positive and the cross-economy average rate of return to schooling is 10% a year.
2. Returns to schooling seem to be higher in low- or middle-income economies than in high-income economies.
3. Returns on another year of schooling are highest at the primary level and become smaller (but still large) at the secondary and tertiary levels.
4. Estimated returns to schooling are higher for women than for men.
5. Returns to schooling have declined very modestly over time, despite rising average levels of schooling attainment, suggesting that global demand for skills has been increasing as the global supply of skills has augmented.
6. Returns to schooling are more concentrated around their respective means than previously thought.
7. The basic Mincerian model used is more stable than it may have been expected.

8. Returns to schooling and labour market experience are strongly and positively correlated;
9. There is a decreasing pattern over time; and
10. The returns on tertiary education are highest.

In the literature, returns to education have been estimated using two main methods: the full discounting method and the Mincerian earnings function. For an explanation of these methods, see (Psacharopoulos, 1995; Psacharopoulos and Mattson, 1998). Over the years, researchers have given preference to the Mincerian method because of its convenience (Mincer, 1974).

The return to schooling before COVID-19. The rate equates the value of an individual's lifetime earnings to the net present costs of education. For an investment to be economically justified, the rate of return should be positive and higher than the alternative rate of return. For an individual, weighing up costs and benefits means investing if the rate of return exceeds the private discount rate (the cost of borrowing and an allowance for risk). The costs incurred by the individual are the foregone earnings while studying, plus any schooling fees or incidental expenses incurred. The private benefits amount to how much extra an educated individual earns (after taxes) compared to an individual with less education. More and less in this case refer to adjacent levels of education – e.g. university graduates compared to secondary school leavers (Psacharopoulos and Patrinos, 2018).

The social rate of return includes society's spending on education; for example, money spent on renting buildings and professorial salaries. The social attribute of the estimated rate of return refers to the inclusion of the full resource cost of the investment; the direct costs for the government and students' foregone earnings as they invest in their education. Ideally, the social benefits should include the non-monetary benefits of education, such as the number of lives saved because of the improved sanitary standards met by a woman because she has received more education. Given the scant empirical evidence of the social benefits of education, social rate of return estimates are usually based on the directly observable monetary costs and benefits of education. Since the costs in a social rate of return calculation are higher than in the one from the private perspective, social returns tend to be lower than the private rate of return. The difference between the private and the social rates of return reflects the degree of the public subsidisation of education, since practically the only difference is the addition of social costs (Psacharopoulos and Patrinos, 2018).

Calculation method and source of data. The impact of COVID-19 on education was calculated in six basic steps. Firstly, the paper draws on the findings of Montenegro and Patrinos (2014) on a country's return to schooling by gender and education attainment. The results are based on the big database constructed from existing national household surveys through the use of the World Bank's International Income Distribution Database (I2D2) (2014). For a detailed description of the sample, see Montenegro and Hirn (2009). The database covers economies in developed and developing regions, with no censoring of any kind in the sample selection. For most of the economies, it covers at least one point in time and, in many cases, several points in time. Montenegro and Patrinos (2014) made an enormous effort to standardise the variable definitions across economies and time periods. The original dataset includes 1,018 economies-years that represent 160 economies. Not all of the economy-year data points are included because some surveys lack key variables. Montenegro and Patrinos calculated the basic specification (the one that requires the minimum set of variables and hence the one that has the most estimates) for 819 economy-year points covering 139 economies. In the first step,

the focus is also on adding the missing data on the return to education. Gaps in the data were filled based on comparative analysis, where major characteristics refer to the level of development and location. Secondly, use was made a database on the scale of closure of education entities around the world created by UNESCO (UNESCO, 2020a). It includes information on government decisions on education from mid-February 2020. There are three possibilities: no closure of schools and universities, partial closure and full closure. In other words, each country is put in one of the following groups (UNESCO, 2020b):

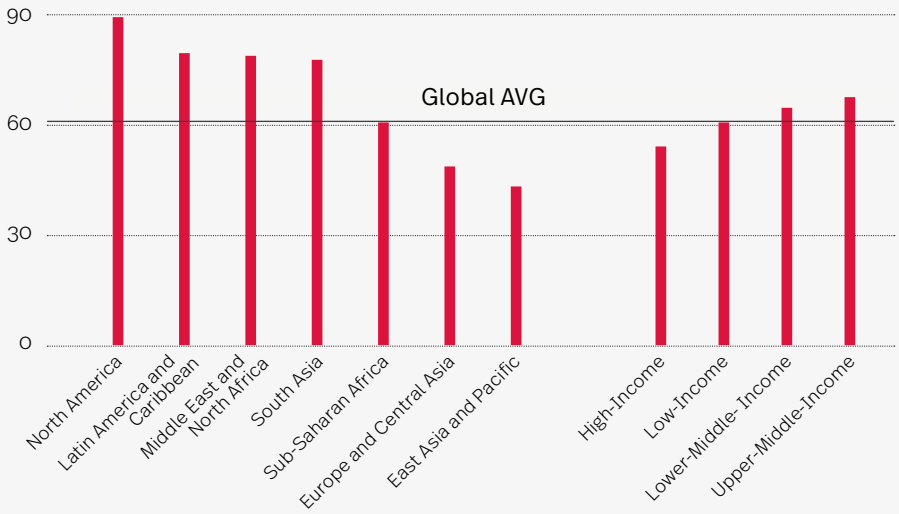
- Closed due to COVID-19: Government-mandated closures of educational institutions affecting most or all of the pupil and student population enrolled from pre-primary to upper secondary levels [ISCED levels 0 to 3]. In most cases, various remote learning strategies are deployed to ensure educational continuity.
- Fully open: At most schools, classes are being held exclusively in person. Measures to ensure safety and hygiene at schools vary considerably from context to context and/or by level of education.
- Partially open: Governments have mandated (a) partial reopening in certain areas; and/or (b) a phased reopening by form or age; and/or (c) a hybrid approach combining in-person and remote learning. It also includes countries where national governments have delegated decisions on reopening to other administrative units (e.g. the region, municipality or individual school) and where a variety of reopening modalities are being used.

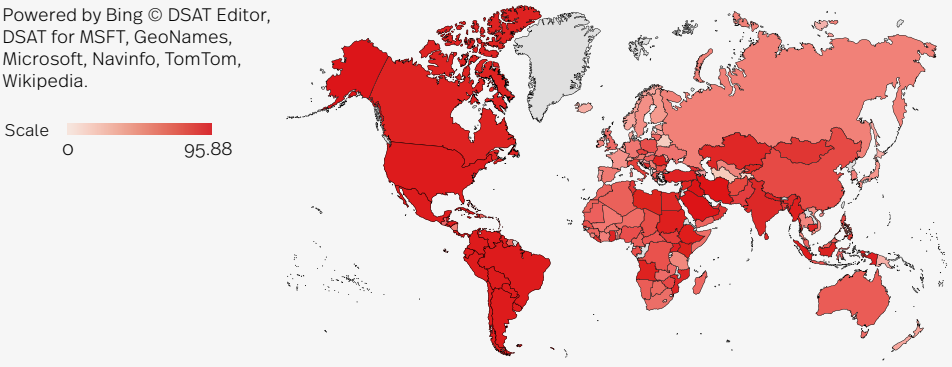
The UNESCO dataset enabled the calculation of the ratios of lost return to schooling for each country, assuming that it is a function of the share of remote classes in the total number of classes. Moreover, the presupposition at this step is that remote lessons are 75% as effective as traditional classes. This is reasonable; according to the literature, large differences in teachers' effectiveness have been ubiquitous across schools. It is expected that these differences will be compounded as changes in the approach to schooling, such as split shifts in schools and more video and dispersed instruction, are introduced (Hanushek and Woessmann, 2020). The adopted percentage of 75% results from research showing that pupils who attended virtual charter schools experienced significant negative effects on English math and arts achievements that persisted over time and that these effects cannot be explained by the observed teacher or class characteristics (Fitzpatrick et al., 2020). Ratios of lost return to schooling were established for each level of education (primary, secondary, tertiary) and with respect for gender differences. Thirdly, the paper incorporated research results (OECD, 2020a) on the nominal financial returns to education for a man or woman and by education attainment. The missing values were approximated by spending on education as a percentage of GDP. As the fourth step, respecting gender differences and educational attainment for expected costs due to COVID-19, the ratios estimated in the second step for each country were used to estimate the long-term net financial returns lost or, in other words, the global lost earnings among young people resulting from the impact of the pandemic on education. The fifth step involved adjusting the output by the level of youth unemployment and the fact that a dollar today is worth more than a dollar tomorrow, applying a discount rate of 3%. Finally, the present value of lost earnings was calculated. To better present the data, the results were converted into: total loss of earnings during a 45-year career, global and regional annual losses and individual loss expressed per year and lifecycle, bearing in mind gender differences and education attainment.

KEY FINDINGS

How long schools were closed for in 2020. From the start of the pandemic to the end of 2020, the average closure was 61.4%, with 40.9% of educational institutions fully closed and 20.5% partially open. By region, the lowest percentages were observed in East Asia and the Pacific (43.4%), Europe and Central Asia (48.8%) and Sub-Saharan Africa (60.6%). The highest shares were noted in North America (89.6%), Latin America and the Caribbean (79.8%), South Asia (77.9%) and the Middle East and North Africa (78.8%). By income group, schools in the richest economies were closed partially or fully for the shortest time in 2020 (54.2%). Higher values were observed in low-income (60.8%) and lower-middle-income countries (64.7%). However, upper-middle income economies had the longest period of remote classes (67.8%).

↘ Figure 4. **How long schools were closed for fully or partially in 2020**





Source: prepared by PEI.

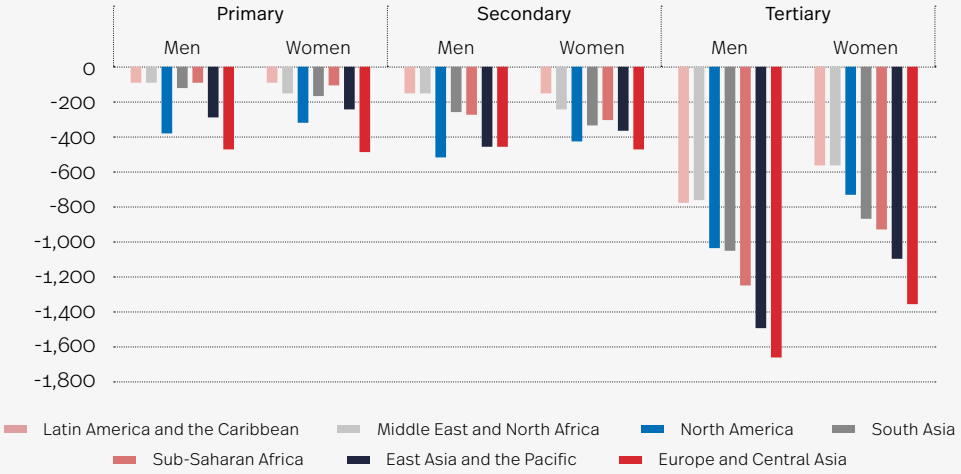
On average, young people will lose USD 550 in future earnings each year. The estimated present value loss in earnings at the individual level is an average of USD 550 a year. This is USD 750 in high-income countries, USD 510 in lower-middle, USD 420 in upper-middle and USD 400 in low-income ones. By region, young people in Europe and Central Asia (USD 817) and East Asia and the Pacific (USD 654) will lose the most, followed by North America (USD 589) and Sub-Saharan Africa (USD 484), South Asia (USD 465), the Middle East and North Africa (USD 326) and Latin America and the Caribbean (USD 302). Significant differences by gender and education attainment were observed. The obtained annual costs for young people who leave education after primary school will be USD 230 in earnings, with girls losing more (USD 235) than boys (USD 227). For secondary school leavers, average lost earnings amount to USD 322 (USD 317 for boys and USD 326 for girls). For university graduates, the predicted individual loss is USD 1103. In this case, men will lose more (USD 1245) than women (USD 967). The highest nominal costs for university graduates result from the fact that return to education for this group is much higher than for people who leave education after primary or secondary school.

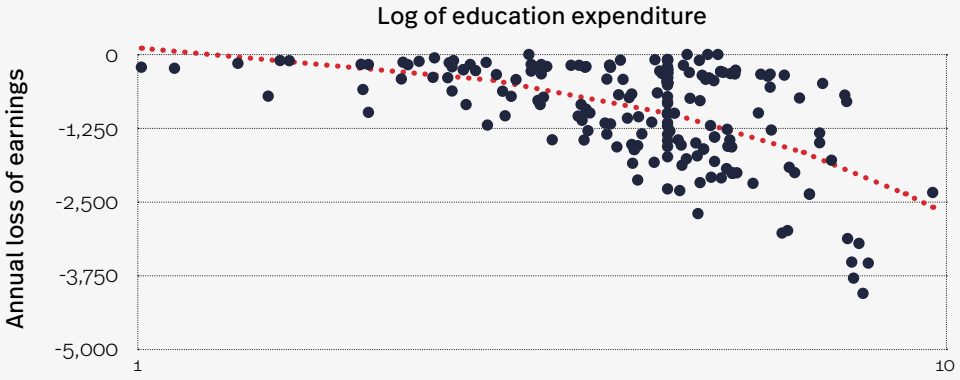
Young people will lose USD 23 trillion over a 45-year working lifecycle due to COVID-19. By adding together the lost earnings of each student, the paper shows a global annual loss in salaries of USD 465.8 bn, the equivalent of 0.53% of global GDP. If we consider a whole working life (45 years), the total decrease in earnings due to COVID-19 is almost USD 23 trillion. Men with primary education will lose USD 2.4 trillion over the course of their lives; for women, this is USD 2.2 trillion. At the secondary level, men will lose USD 3.2 trillion, compared to USD 3 trillion among women. Again, university graduates will pay the highest price: USD 5.5 trillion for men and USD 4.8 trillion for women. In terms of lost earnings over 45 years at the individual level, the average man with only primary education will lose USD 10,205; for a woman, this is USD 10,551. For each young man leaving education after secondary school, expected earnings will be USD 14,278 lower; for women, this will be USD 14,679. The highest nominal individual loss is observed among university graduates: USD 56,184 for men and USD 43,060 for women.

TRIANGLE INTERVENTION PROPOSAL FOR EDUCATION

1. **Maintain government spending on education and regain lost time.** The crisis is expected to lead to budget cuts and education could lose a lot. Some envisage massive cuts in education budgets. This will jeopardise global achievements in terms of access to education and global efforts to improve learning outcomes. We may have to consider public-private partnerships and encourage private sponsors to support primary, secondary and higher education, although each level has a different formula. We could also think about incentives for students to stay at school, such as scholarships, conditional money transfers and savings programmes to encourage learning. A lack of investment in education and training will damage long-term economic prospects and lead to short-term losses for students, employees and their families. In addition, it is important to prepare an education catch-up plan. At the school level, this should be done taking into account local specificities and lost knowledge, skills or competences.
2. **Revise the educational model.** The pandemic has highlighted the weaknesses of all the education systems in the

↘ Figure 5. **Annual loss in earnings by education attainment and gender (USD)**





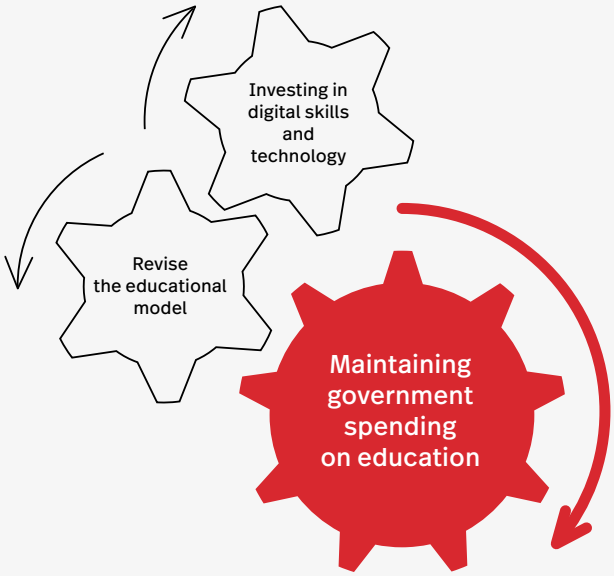
Source: prepared by PEI.

world. At the same time, for all of them, at least one common point can be identified: the mismatch between the educational offer and market needs. A profound reform of education models, with less theoretical knowledge and more focus on practical skills, will respond to the problem of the easy replacement of employees. Additionally, some of the experiences of COVID-19 can be drawn on for future hybrid teaching. Thorough research is needed to assess the positive features of hybrid learning, which can become part of the best practices in the organization of learning.

3. **Invest in digital skills and technology:** the unique and unprecedented nature of the crisis means that not only better-educated people, but also those in jobs and professions are more likely to work remotely and perform better. Most

of the time, they are people with digital skills. Therefore, equipping people with digital skills has suddenly become a critical need. Even professions such as primary school teachers, music teachers, personal fitness trainers and service providers who may never have had to connect remotely before had to connect with others online. Offering short training courses to improve digital skills will help. Governments have also started to subsidise Internet access or supply cheap computers to people without access to technology.

↘ Figure 6. **Triangle Intervention Proposal regarding education**



Source: prepared by PEI.

The impact of COVID-19 on mental health

BACKGROUND

Mental health is one of the most neglected areas of public health. The costs of mental health problems exceed 4% of GDP (OECD/EU, 2018). Almost a billion people live with mental disorders, 3 million people die each year from harmful alcohol consumption and one person dies by suicide every 40 seconds. Now billions of people around the world have been affected by the COVID-19 pandemic, which is having a further impact on mental health (WHO, 2020c). The limited access to quality, affordable mental health care in the world before the pandemic, and particularly in places with humanitarian emergencies and conflicts, has been further diminished by the pandemic, which has disrupted health services. The primary causes have been infection and the risk of infection at long-stay facilities such as care homes and psychiatric institutions; barriers to meeting people face-to-face; mental health staff being infected with the virus; and the closure of mental health facilities to convert them into care facilities for people with COVID-19. The pandemic has disrupted or halted critical mental health services in 93% of countries worldwide, while the demand for mental health services is increasing, according to a WHO survey (WHO, 2020a). Relatively few people around the world have access to quality mental health services. In low- and middle-income countries, more than 75% of those with mental, neurological and substance-use disorders receive no treatment for their condition at all (WHO, 2020c).

Mental disorders have increased due to COVID-19. As the population is exposed to traumatic scenes linked to the pandemic, whether in real life or in media coverage from all over the planet, the emergence of mental disorders in vulnerable people is guaranteed (de Jesus Mari and Oquendo, 2020). The most common post-disaster disorders are major depression, post-traumatic stress disorder and anxiety disorders; an increase in the consumption of alcohol and drugs is also observed. It is no exaggeration to call this stress catastrophic; the mental health effects of COVID-19 will be caused by at least five different impacts of the pandemic, each of which is expected to have a profound influence on mental health independently. This suggests that the mental health repercussions will be greater than those after other disasters.

Before presenting five major ways in which the virus has an impact, we need to identify the crucial facts or starting point: whether or not a person has suffered from any mental disorder before. We should also take into account whether the individual has been infected with the virus or not.

Five ways in which COVID-19 can affect individuals' mental health

The **first** mental health effect of COVID-19 is the sudden – and, in some regions, unexpected – outbreak of the virus, causing fear and acute stress reactions. The fear of being infected or of infecting others is no different from the fear of traumatic situations such as earthquakes or other natural disasters.

The **second** mental health effect is the need to be in quarantine. While quarantine is essential for fighting the pandemic, sudden changes

in routine and isolation can lead to feelings of helplessness, boredom, anxiety, anguish, irritability and anger at the loss of freedom. These reactions might just be situational adjustments to the new reality and not necessarily pathological. After all, depression and anxiety are normal responses to existing uncertainty. Nevertheless, the mental health effects of quarantine are remarkably similar to those of traumatic events (Hawryluck et al., 2004).

The **third** mental health effect relates to the alarmingly high number of deaths from COVID-19, overwhelming hospitals, mortuaries and funeral homes. Without the usual parting rituals, such as spending time with a dying person or a funeral, there can be an increase in complicated grief with depression and the risk of suicide (Reger, Stanley and Joiner, 2020). The main problem is how normal grief and distress turn into long-term grief and major depression, with the symptoms of post-traumatic stress disorder (Simon, Saxe and Marmar, 2020). Prolonged grief disorder (WHO, 2020b) is characterised by at least 6 months of intense longing, preoccupation or both for the deceased, emotional pain, loneliness, difficulty re-engaging in life, avoidance, a feeling that life is meaningless and an increased risk of suicide. Once established, these conditions can become chronic, with additional comorbidities such as substance use disorders. Long-term grief affects approximately 10% of bereaved people (Lundorff et al., 2017), but this is likely to be underestimation when it comes to mourning deaths caused by COVID-19 (American Psychiatric Association, 2020). Moreover, each COVID-19 death leaves an estimated nine family members mourning (Verdery et al., 2020). This means that the mental health impact of COVID-19 deaths will be profound.

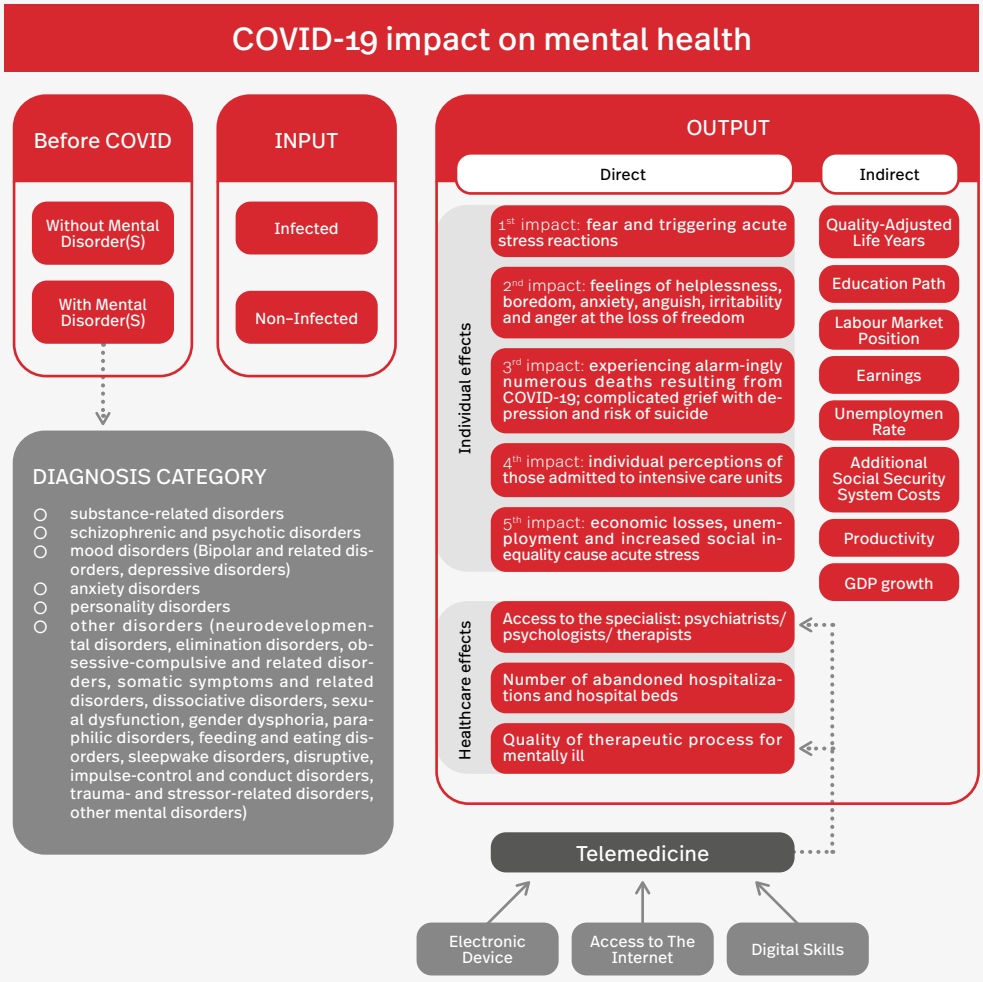
The **fourth** effect relates to the individual perceptions of people admitted to intensive care units, who will experience terrifying phenomena. Some of them will experience episodes of major depression, post-traumatic stress disorder and other psychiatric conditions (de Jesus Mari and Oquendo, 2020).

The **fifth** effect relates to the economic losses, unemployment and increased social inequality, all of which generate acute stress likely to evolve into chronic stress in a large swath of the population, also increasing the risk of mental disorders. The impact of this new wave of mental disorders on the economy is not to be underestimated (Trautmann, Rehm and Wittchen, 2016).

Effects of COVID-19 on the healthcare system. In addition to the five direct effects of COVID-19 at the individual level listed above, we can observe three more related to the healthcare system. Those are: access to specialists (psychiatrists, psychologists and therapists); the number of abandoned hospitalisations and the number of hospital beds for mentally ill patients; and the impact of COVID-19 on the quality of therapy for people with mental disorders. Telemedicine is quickly replacing the classic treatment process, but we must remember the lack of electronic devices, the quality of Internet connections and access to them as well as digital skills. Interestingly, the idea of using telepsychiatry (TP) has attracted interest since 1973 (Dwyer, 1973) and the increasing use of TP technologies in recent years has provided strong evidence of its effectiveness (Hubley et al., 2016). For example, cognitive behavioural therapy, which was compared with face-to-face therapy in randomised, controlled trials, produced equivalent overall effects (Andersson et al., 2014). It is not surprising that psychiatry is at the forefront of telemedicine, given that some aspects of telemedicine, such as virtual visits and the remote monitoring of patients, are particularly good at providing psychiatric care. Many clients can be reached even more easily from a distance due to the stigma of mental illness or difficulties in social interaction, such as anxiety and obsessive-compulsive disorder.

Indirect effects of COVID-19 relating to mental health. As highlighted, COVID-19 has a direct impact on individual mental health and the related healthcare system. However, we must remember a few indirect, to some extend hidden, effects of the pandemic. First of all, in the long term, one indirect effect may be a decrease in the number of quality-adjusted years of life. Secondly, experiencing mental illness may change a person's educational path, shaping his or her position on the labour market as well as earnings and the risk of permanent unemployment. Furthermore, the more severe the illness, the higher the expected costs for the social welfare system. Finally, all of this determines the productivity rate and may also shape GDP growth. Figure 7 summarises these issues.

↘ Figure 7. How COVID-19 affects mental health



Source: prepared by PEI.

Main empirical findings so far about COVID-19 and mental health. The stress and social disruption of the pandemic have exacerbated depression and anxiety worldwide and adversely affect many people with pre-existing psychiatric and substance use disorders (Simon, Saxe and Marmar, 2020). The negative consequences of COVID-19 on mental health, including anxiety and depression, have been widely predicted, but not yet precisely measured. There are a number of risk factors for COVID-19 physical health, but it is not known whether psychiatric risk factors also exist (Taquet et al., 2020).

The available studies on a sample of 69 million people, 62,354 of whom had been diagnosed with COVID-19, assessed whether the diagnosis of COVID-19 (compared to other health events) was associated with an increased percentage of subsequent psychiatric diagnoses and whether patients with a history of mental illness were more at risk of being diagnosed with COVID-19. Studies (Taquet et al., 2020) have shown that nearly 1 in 5 people diagnosed with COVID-19 will be diagnosed with a psychiatric disorder such as anxiety, depression or insomnia within three months. Compared to patients with other health events this year – such as the flu, kidney stones or a serious bone fracture – those diagnosed with COVID-19 were more likely to have a subsequent psychiatric diagnosis in the next 14-90 days. People who recovered from COVID-19 were roughly twice as likely to be diagnosed with a mental health disorder, compared to someone who had the flu. The study found that the link between mental illness and COVID-19 was actually two-way: people with a psychiatric diagnosis were 65% more likely to be diagnosed with COVID-19 than those without one. It is unclear why. The study investigated certain factors, including physical risk factors and those who had severe housing and economic difficulties, but the risk persisted.

Scientists managed to differentiate between COVID-19 cases in terms of severity. For example, they found that a person hospitalised for COVID-19 was more likely to be given a psychiatric diagnosis than someone who did not need to be hospitalised. However, the data did not provide enough detail to tell whether someone who was in the intensive care unit for COVID-19 was more likely to get a psychiatric diagnosis than someone who was in the ICU for any other reason. Researchers have also found an increased risk of dementia in people who are convalescing from COVID-19 (Taquet et al., 2020).

Calculation method and source of data. There were six basic steps. The first involved calculation based on three broad categories (impact on health spending, social spending and the labour market) which contain eight cost-specific categories. This approach was used because the total costs of mental health problems are huge, highlighting the need for greater efforts to prevent mental illness and provide timely and effective treatment when it occurs. Besides the costs on healthcare systems, mental health problems also result in substantial costs in terms of social security benefits, as well as negative effects on the labour market in terms of reduced employment and productivity. The table below summarises the different categories of direct and indirect costs considered in the analysis (Table 1). The direct costs include both those borne by healthcare systems as they treat mental health problems and additional social security spending, including paid sick leave, disability benefits and unemployment benefits. The indirect costs relate to the labour market impact of mental health problems, including lower employment rates for people with mental health problems and lower productivity due to higher absenteeism and lower productivity when at work ('presenteeism').

↘ Table 1. Summary of direct and indirect costs related to mental health problems

Broad categories	Specific cost categories
Impact on heath spending	Higher direct healthcare costs (doctor visits, pharmaceutical costs and hospitalisations, etc.)
Impact on social spending	Higher paid sick leave
	Higher disability benefits
	Higher unemployment benefits
Impact on labour market (employment and productivity)	Lost income due to mortality from mental illnesses among the working-age population
	Lost income due to lower employment rate among the working-age population with mental health problems
	Lost income due to greater absenteeism (fewer hours worked and more sick leave) among people with mental health problems
	Lost income due to lower productivity for people with mental health problems at work (presenteeism)

Source: prepared by PEI based on OECD/EU (2018).

The second step relied on the dataset showing the total direct and indirect cost of mental health in OCED countries (OECD/EU, 2018). In the study, the direct costs include both those borne by healthcare systems as they treat mental health problems and additional social security spending, including paid sick leave, disability benefits and unemployment benefits. The indirect costs relate to the labour market impact of mental health problems and include both lower employment rates among people with mental health problems and lower productivity due to higher absenteeism and lower productivity at work ('presenteeism').

In the third step, comparative analysis was used to estimate the total cost of mental disorders globally. Countries' current health spending served as a proxy of mental health costs. As a consequence, the estimated direct health care costs are based on the selection of mental health conditions contained in a previous study on the cost of disorders of the brain (Gustavsson et al., 2011). The original cost estimates were extrapolated to 2020 using recent healthcare spending data and updated macroeconomic data. Overall estimates were also corroborated with country-specific health spending by disease studies. In addition, the following assumptions were made to fill data gaps on the share of social security spending related to mental health problems for countries that did not have the data readily available: **1)** 20% of paid sick leave benefits are related to mental health problems, based on the available evidence (OECD, 2012); **2)** 37% of disability benefits are related to mental health problems, based on the available evidence (OECD, 2015); **3)** 15% of unemployment benefits are related to mental health problems, based on evidence that around 30% of people on average (OECD, 2015) who receive unemployment insurance benefits also report some mental health problems, but assuming that mental health problems are the leading cause of unemployment among just half of the people; **4)** the approach used to measure the negative employment effect of mental health problems assumes that people with mental health problems would have had the same

employment rate as the rest of the population and earn the same wages, using the median wage in the economy; **5)** the productivity effect is measured by looking at both absenteeism and 'presenteeism'. The last assumption is based on a study that found that both blue-collar and white-collar workers with mental health problems were about 6% less productive than those without them (Hilton and et al, 2008). It was assumed that the lower productivity at work was reflected in lower wages.

The fourth step involved estimating COVID-19's impact on the increase in two types of direct costs of mental health. To this end, WHO research results (WHO, 2020a) were used to show that more than 60% of entities reported disruptions in the provision of mental health services for vulnerable people, including children and adolescents (72%), the elderly (70%) and women in need of antenatal or postnatal care (61%). Moreover, 67% saw disruptions in counselling and psychotherapy, 65% for critical harm reduction services and 45% for opioid agonist maintenance treatment of opioid dependence. Those values were used to estimate the direct cost for health systems. The second category of direct costs – social benefits – was presented based on the fact that 30% reported disruptions in access to drugs for mental, neurological and substance use disorders (WHO, 2020a).

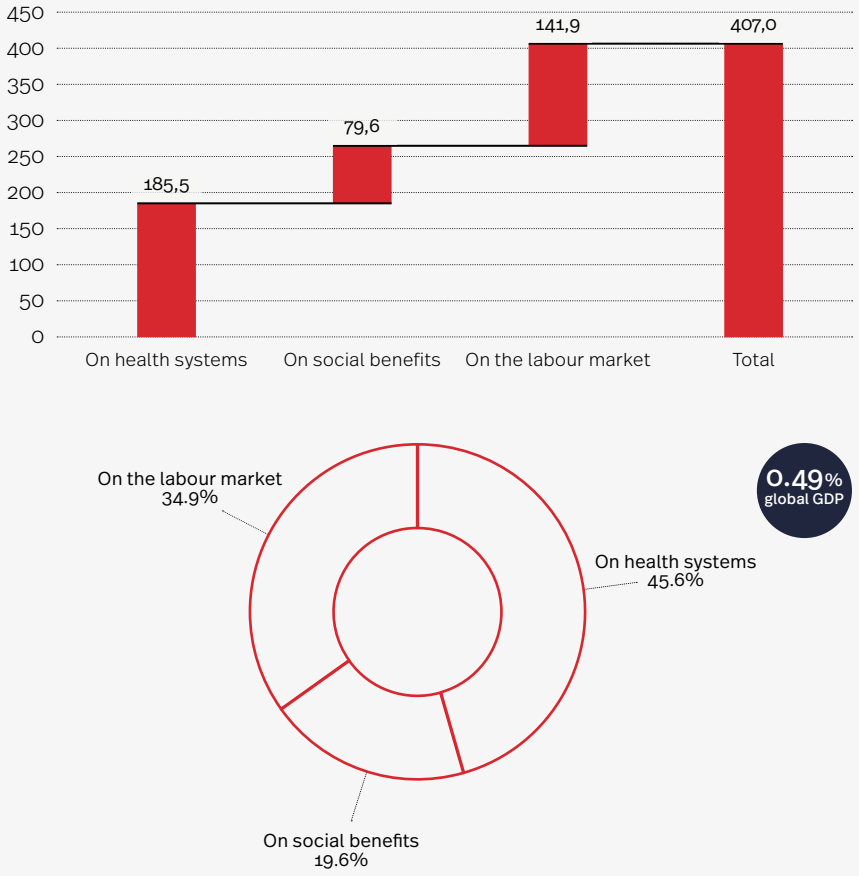
The fifth step estimated COVID-19's impact on the increase in the indirect costs of mental health problems. It was based on data retrieved from the available literature (Allas, Chinn and Sjatil, Pal Erik Zimmerman, 2020). The article notes a decrease in life satisfaction, which directly affects the situation on the labour market. In other words, a suitable proxy of an increase in indirect costs due to COVID-19 was assumed to be a change in life satisfaction.

The sixth step was to gather data on the share of young people (5–34) in a given country, based on the assumption that the COVID-19-related mental health costs among young people were proportionally related to the share of the young generation in the population. The result was the increase in direct and indirect mental health costs in the young generation due to COVID-19.

KEY FINDINGS

In 2020, mental health costs among young people due to COVID-19 would grow by 0.49% of global GDP. Probably, the healthcare system will be under an additional strain by this number each year. The overall yearly cost of COVID-19 related to mental health problems among young people are estimated at over USD 407 billion worldwide: USD 185.5 billion in direct spending on healthcare systems, USD 79.6 billion on social security programmes and a further USD 141.9 billion in indirect costs related to labour market impacts (lower employment and lower productivity). The percentages are 45.6%, 19.6% and 34.9% respectively (Figure 8).

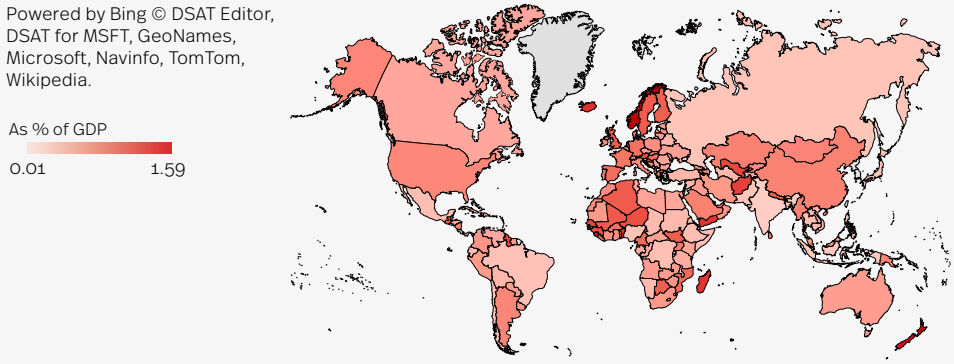
↘ Figure 8. Direct and indirect costs related to mental health problems before and after COVID-19 (EUR billion)

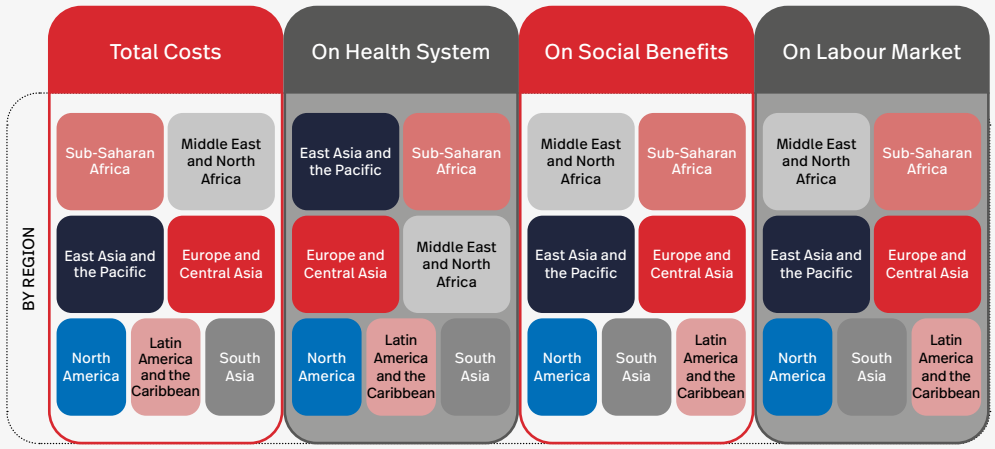


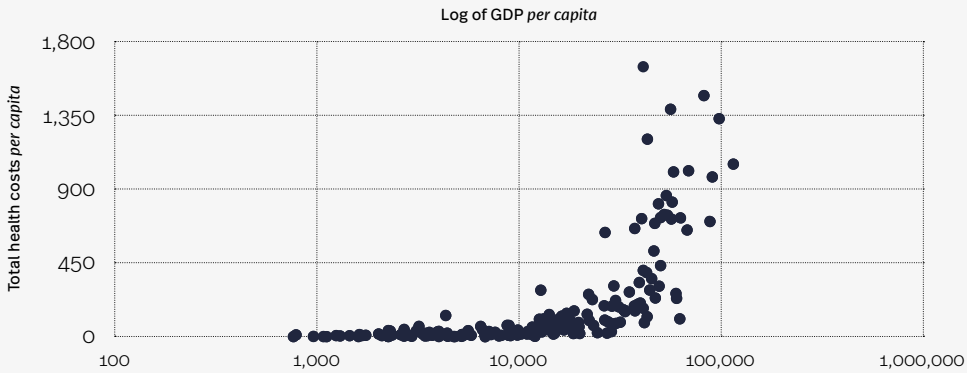
Source: prepared by PEI.

The highest increase in mental health costs due to COVID-19 is observed in the Middle East, North Africa and Sub-Saharan Africa as well as in high-income economies. By region, the estimated costs of COVID-19 related to mental health problems range from 0.53% of GDP in the Middle East and North Africa and in Sub-Saharan Africa, 0.50% of GDP in East Asia and the Pacific, 0.49% of GDP in Europe and Central Asia, 0.44% of GDP in North America, 0.41% of GDP in Latin America and the Caribbean to 0.38% of GDP in South Asia (see Figure 9). In terms of income, the lowest impact is observed in the high-income group (0.54%), followed by low- (0.51%), lower-middle (0.48%) and upper-middle countries (0.43%). Those variations are mainly driven by the share of people reporting mental health problems (which may be underestimated in countries where there is a strong stigma associated with mental health problems) as well as by differences in the social security benefits provided to people with mental health problems (in terms of paid sick leave, disability benefits and unemployment benefits) and different levels of spending on mental healthcare services.

↘ Figure 9. Estimated direct and indirect costs of COVID-19 related to mental health problems (% of GDP)







Source: prepared by PEI.

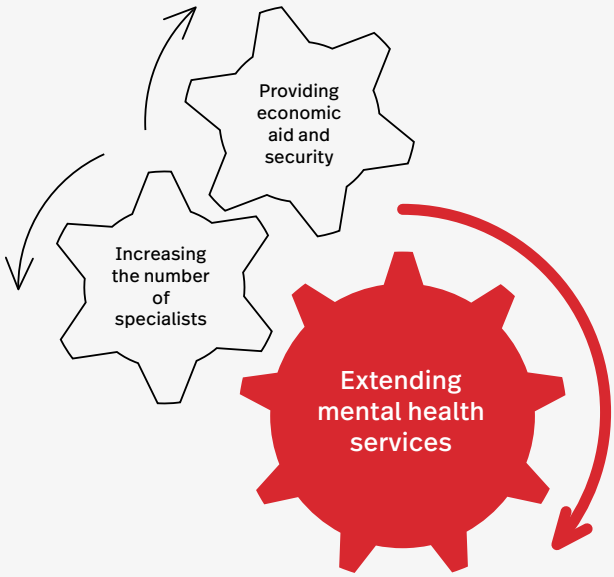
TRIANGLE INTERVENTION PROPOSAL REGARDING MENTAL HEALTH

1. **Extending governments' spending on mental health:** Limited access to psychiatric care and addiction treatment is partly caused by the current shortage of mental health professionals, which is likely to be exacerbated by the COVID-19 pandemic (Pfefferbaum and North, 2020). Since the beginning of the pandemic, there has been an increase in mental health services provided through telemedicine (Robbins, 2020). These efforts must be constantly improved and the IT system developed to handle the growing number of patients efficiently. At the same time, the employment of psychological healthcare specialists has to increase. There should be an attempt to address the scarcity of psychiatric care personnel by providing virtual coaching, monitoring and educational content. This is particularly important where people with pre-pandemic mental health and substance use disorders and those who are newly affected are likely to need mental health and substance use services. An emotional support hotline should be launched and health insurers should be required to forego ongoing costs for in-house psychiatric care.
2. **Increasing the number of mental disorders specialists at schools and universities.** Those people are the closest to young people and could react quickly to disturbing changes in their lives. It is worth remembering scientific results on improving the scanning of high-risk individuals in the population. The mental health and emergency management communities should work together to identify, develop and disseminate evidence-based resources related to mental health following a disaster, mental health triage and referral, special populations' needs and death notification and bereavement care (Pfefferbaum and North, 2020). There is broad knowledge on this issue; one study echoes previous ones showing that women are more likely to develop depression and/or anxiety (Lim et al., 2018). Study results played an important role in guiding online psychological intervention before and during the outbreak (Sani et al., 2020; Zhang et al., 2020). Schools authorities should consider adding elements to self-awareness in their curricula, including meditation. There is growing evidence that suggests that meditation has a positive effect on symptoms of anxiety (Saeed, Antonacci and Bloch, 2010; Carpena, Tavares and Menezes, 2019; Saeed, Cunningham and Bloch, 2019).
3. **Provide economic aid and security.** People experiencing job loss and income insecurity are particularly at risk of of experiencing potential long-term mental health effects. An analysis by the Well Being Trust and Robert Graham Center for Policy Studies shows that there could be an additional 75,000 deaths from suicide and alcohol or drug abuse in the US by 2029 due to the economic downturn (Well Being Trust & The Robert Graham Center, 2020). Health-related intervention should therefore be combined and compatible with labour market policies and strategies. To address the probable increase in demand for mental health services, states should consider legislation providing economic

assistance and security in the context of COVID-19. Such provisions could alleviate the urgent need for remote mental health and substance use services.

The regulations should be supplemented with a fund that would extend the scope and availability of telehealth and other remote care for insured patients.

↘ Figure 10. **Triangle Intervention Proposal relating to mental health**



Source: prepared by PEI.

The impact of COVID-19 on the labour market

BACKGROUD

Young workers in all regions and country income groups were particularly hit by the crisis in 2020, resulting in an employment loss of 8.7%, compared to 3.7% among adults overall. However, outside high-income countries, young people without jobs or those about to enter the labour market generally did not become unemployed; rather, they dropped out of the labour force or delayed their entry into it. It explains why the global number of unemployed young people did not increase dramatically. Nevertheless, the crisis has exacerbated young people's disconnection from the labour market, highlighting the risk of a lost generation, which is all too real (ILO, 2021).

The COVID-19 crisis has severely disrupted economies and labour markets in every region. Annual estimates confirm that labour markets around the world were disrupted in 2020 on a historically unprecedented scale. In 2020, 8.8% of global working hours were lost relative to the fourth quarter of 2019, equivalent to 255 million full-time jobs. Working-hour losses were particularly high in Latin America and the Caribbean, Southern Europe and Southern Asia. In 2020, working-hour losses were approximately four times greater than during the global financial crisis in 2009 (ILO, 2021).

The factors driving the decline in working hours vary considerably between the countries for which relevant data is available. In some countries, shorter working hours and 'being employed but not working' (e.g. when workers are put on temporary leave) contributed significantly to the decline. In others, the main driving factor was people being pushed into unemployment and inactivity. These variations suggest that a narrow focus on unemployment does not allow the pandemic's impact on the labour market to be assessed properly (ILO, 2020c).

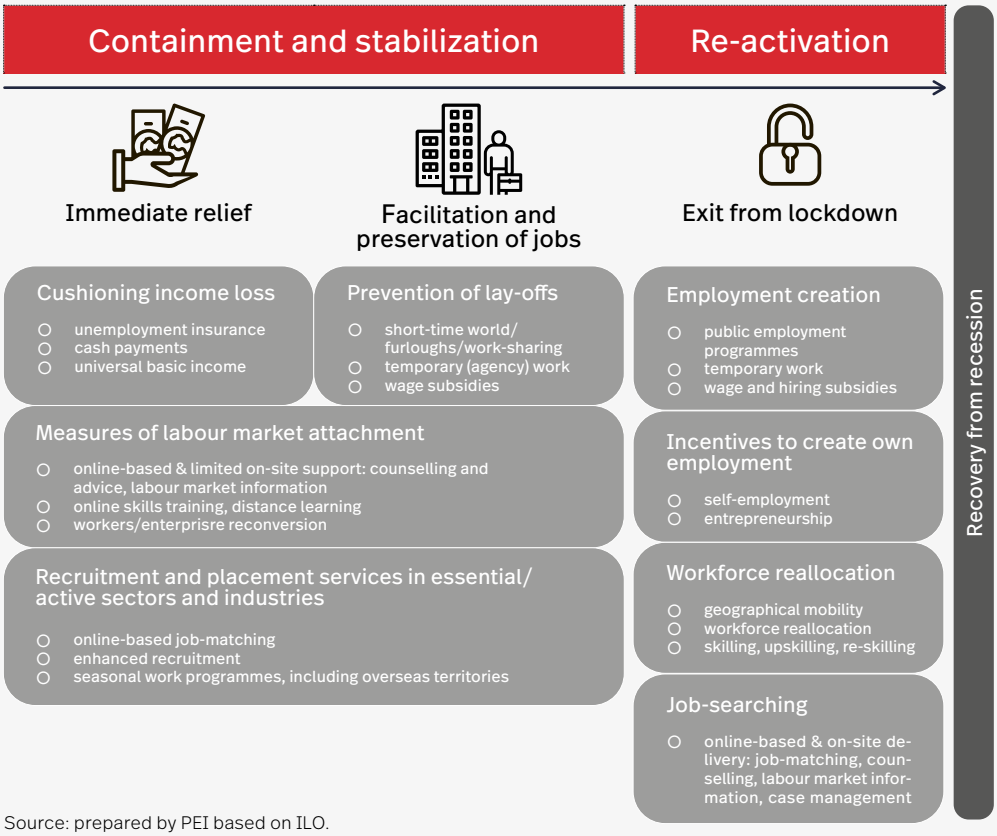
Retail, accommodation and food services, manufacturing – the riskiest branches for employees. Among those most vulnerable during the COVID-19 crisis are the 1.6 billion informal economy workers, representing half of the global workforce, who work in sectors experiencing major job losses or have seen their incomes seriously affected by the lockdowns. The crisis is disproportionately affecting 1.25 billion workers in at-risk jobs, particularly in the hardest-hit sectors such as retail, accommodation and food services as well as manufacturing (ILO, 2020b). Most of those workers are self-employed, in low-income jobs in the informal sector and have limited access to labour market mechanisms for cushioning income losses and unemployment. The crisis has exacerbated existing vulnerabilities and job instability for workers already at risk of poverty and economic inactivity. Young people are experiencing multiple shocks, including the disruption of education and training, employment and income, in addition to greater difficulties in finding jobs (ILO, 2020a).

Women, young people, migrant workers and older employees, groups often over-represented among the low-skilled and in many sectors hit the hardest by the pandemic, are more likely to find their jobs threatened during the recession induced by COVID-19 (ILO, 2020a). In contrast to previous crises, women's employment is more at

risk than men's, particularly due to the impact of the downturn on the service sector. At the same time, women account for a large proportion of workers in frontline occupations, especially in the health and social care sectors. Moreover, the increased burden of unpaid care caused by the crisis affects women more than men (ILO, 2020c).

Government policy response. Labour market programmes are a key part of the mix of policy responses that governments have put in place to protect jobs, enterprises and incomes from the fallout of COVID-19. As in previous crises, policy-makers in emerging and developed economies have used labour market policies to deal with immediate labour market deterioration in various ways: to speed up the return to work, adapt skills, facilitate workforce reallocation and cushion temporary income losses after unemployment spells. According to the evidence, the fiscal packages had a direct impact on the protection of labour markets (ILO, 2020d). However, in contrast with past downturns, in this crisis labour market institutions have had to deal not only with a fall in aggregate demand, but also with the effects of lockdown restrictions and physical distancing measures aimed at slowing the spread of the coronavirus. A summary of labour market policy responses most commonly available, including those directed at labour demand and supply and their intermediation, is shown in Figure 11.

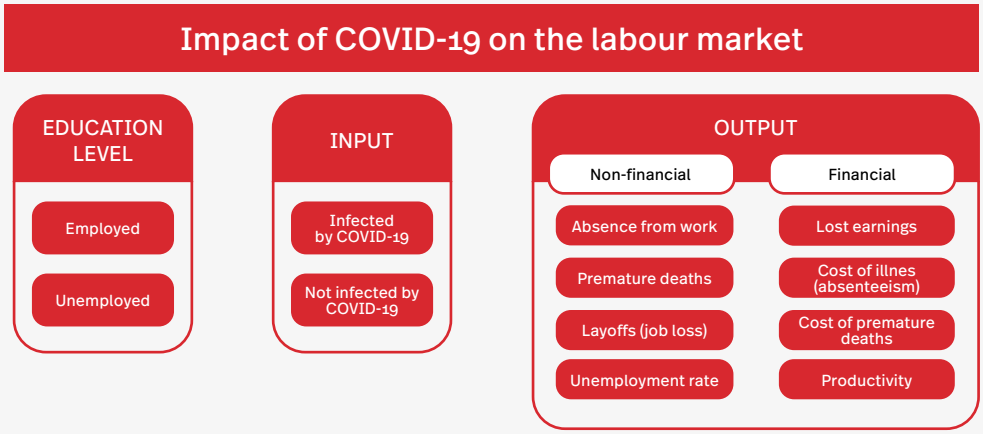
↘ Figure 11. **COVID-19: the labour market policy toolbox**



Source: prepared by PEI based on ILO.

(Non-)financial cost of COVID-19 related to the labour market. When it comes to estimating the labour market costs of COVID-19, we should take into account the pre-pandemic situation: whether or not someone was employed. Input can be simply defined as the degree of the virus's impact. In terms of output, the consequences can be divided into non-financial and financial ones. Examples of the first category (status on the labour market) are absence from work caused by quarantine, premature death and layoffs. At the individual level, the financial costs expressed in terms of money are basically measured by lost earnings. There are two approaches to measuring them. On the one hand, the direct impact of COVID-19 will be observed as a consequence of being laid off from work; on the other hand, the indirect one refers to the less visible changes on the labour market, e.g. reductions in a company's salary policy. Considering the social perspective, we can also monetise the cost of illness (absenteeism and presenteeism) and express it in terms of lost productivity, as well as the cost of premature deaths – in this case, we express cost in terms of the loss of gross value added generated and therefore smaller GDP growth.

↘ Figure 12. Impact of COVID-19 on the labour market



Source: prepared by PEI based on ILO (2020a).

Calculation method and source of data. To estimate the total value, a six-step analysis was conducted. First of all, it was based on the International Labour Organisation's data (ILO, 2020c) on working-hour losses. Those, as estimated using the ILO nowcasting model, are an aggregate indicator of the labour market impact of the COVID-19 crisis. The factors driving such losses depend on country-specific labour market outcomes during the pandemic, with policy implications for the recovery process. To identify the key mechanisms behind the impact of the crisis, working-hour losses may be broken down into four components:

- Shorter hours: a drop in average weekly hours worked compared to the pre-crisis situation;
- Being employed but not working: workers remain attached to their existing jobs but do not do any work at all. They are employed but not at work or temporarily

absent from work (e.g. furloughed workers and workers on sick leave);
- Unemployment: being available for and seeking employment;
- Inactivity: withdrawal from the labour force.

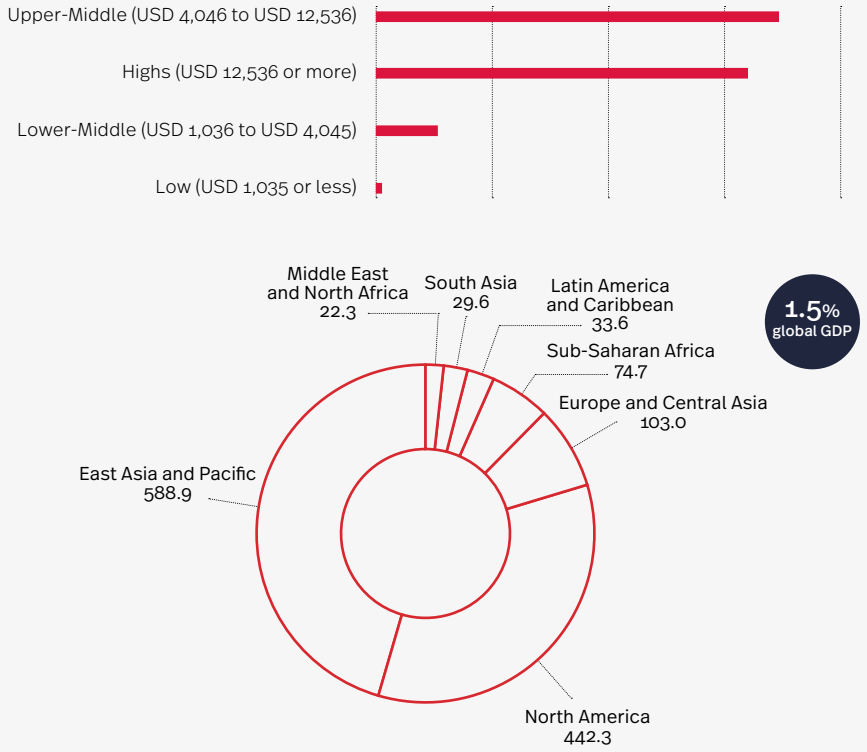
The second step involved calculating change in the unemployment rate in 2020 among people in the 15–34 age group. It resulted in the number of young people having become unemployed because of COVID-19. The third step used information on a country's average monthly salary by gender, adjusting the data to the right age group. Based on the literature (DQYDJ, 2020), the percentage assumed was 75%. The fourth step combined the information on the increase in youth unemployed due to COVID-19 and the adjusted salary. As a result, the short-term costs for young people in 2020 caused by COVID-19 were estimated. In the fifth step, based on the estimated consequences of previous crises, a long-term analysis of the future earnings lost by young people was conducted. In this context, the literature indicates that starting one's working life during a recession can affect labour market entrants for years; in some cases, well into middle age (von Wachter, 2020). Unlucky young workers entering the labour market during a recession face a number of medium- to long-term consequences. The large initial impact on labour supply and wages tends to disappear after 10 to 15 years on the labour market, partly accompanied by changes in occupation, job mobility and employer characteristics. Adverse initial labour market entry also has a lasting impact on a number of social factors, including fertility, marriage and divorce, criminal activity, attitudes and risky alcohol consumption. Some evidence suggests that early exposure to a labour market crisis worsens health and increases middle-aged mortality, with earnings gaps reopening. Overall, the average college graduate loses around 10% of accumulated discounted annual earnings during the first ten years of his or her career, which is three-quarters of their average earnings over that period. These effects are greater for unfortunate, less educated and non-white young people, who lose up to 13% of accumulated discounted earnings, and less for unlucky college graduates, who lose around 5% (von Wachter, 2020). Concluding the studies of the period over which the negative labour market consequences will be observed, a labour market perspective was adopted. It involved the calculation of the net present value of the salary lost by young people unemployed due to COVID-19, adopting a 3% discount rate. The sixth step used figures on the young population, adjusted by the country's employment rate, as well as the average salary adjusted by age. It also drew on the results of research (von Wachter, 2020) on the value of earnings lost in crises, taking into account gender differences. Combining all of the information, the expected long-term labour market consequences for young men and women were estimated and expressed as lost earnings.

KEY FINDINGS

In the short term, the impact of COVID-19 on the labour market cost youth USD 1.29 trillion. In 2020, the total financial costs for young people exceeded USD 1,294 billion, which corresponded to 1.5% of global GDP. Globally, women lost USD 646 bn in one year, while men lost USD 648 bn. The strongest negative repercussions were felt in East Asia and the Pacific (USD 588.9 bn) as well as in North America (USD 442.3 bn). The impact was the lowest in the Middle East and North Africa (USD 22.3 bn), South Asia (USD 29.6 bn), Latin America and the Caribbean (USD 33.6 bn).

It was greater in Sub-Saharan Africa (USD 74.7 bn) as well as in Europe and Central Asia (USD 103.0 bn). In terms of countries' income, the worst situation was observed in upper-middle economies (USD 613.3 bn), followed by high- (USD 565.5 bn) and lower-middle income ones (USD 98.5). The impact was the least severe in low-income regions (USD 17.2 bn).

↘ Figure 13. **Short-term impact of COVID-19 on the labour market by region (in billion USD)**



Source: prepared by PEI.

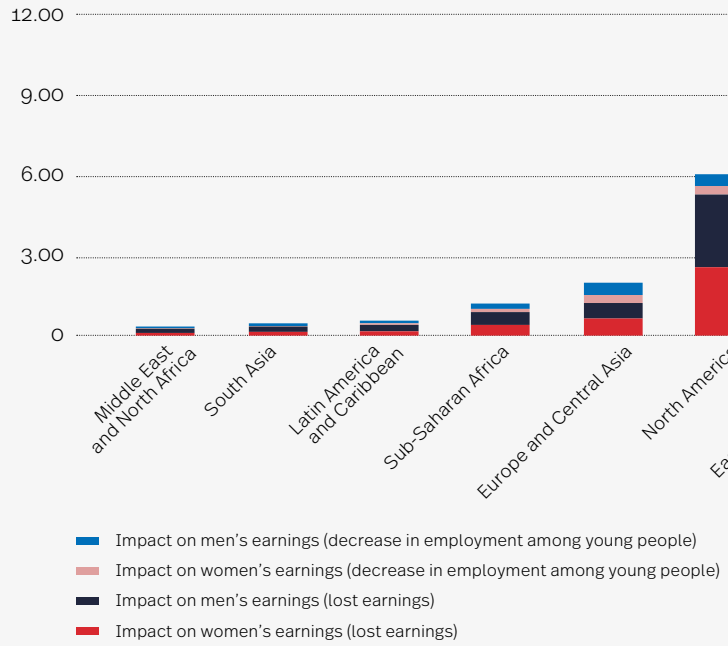
In the long term (15 years), young adults' lost earnings due to COVID-19 will reach USD 21.2 trillion globally. This results from two kinds of costs: those caused by permanent unemployment (USD 15.5 trillion) and those caused by the decrease in earnings (USD 5.7 tril-lion). At the individual level, the average young employee will lose USD 1,610 a year – USD 1,879 among women and USD 1,452 among men. The losses will amount to 10.1% of the employee's salary. This percentage will be the highest in low-income economies (11.0%) and slightly lower in upper-middle income ones (10.7%), followed by lower-middle (9.9%) and high-income ones (9.6%). Globally, the money lost each year is equal to USD 1.4 trillion, which represents 1.6% of the world's GDP.

In terms of unemployment growth, the consequences over 15 years will be the most severe in upper-middle income economies (USD 7.3 trillion)

and the highest income ones (USD 6.8 trillion). Young people in lower-middle income regions will miss out on almost USD 1.2 trillion and those in low-income countries will lose USD 0.2 trillion. By region, the situation will be the worst in East Asia and the Pacific (USD 7.0 trillion), North America (USD 5.3 trillion) as well in Europe and Central Asia (USD 1.2 trillion), followed by Sub-Saharan Africa (USD 0.9 trillion), Latin America and the Caribbean (USD 0.4 trillion), South Asia (USD 0.4 trillion), the Middle East and North Africa (USD 0.3 trillion).

In terms of the decrease in earnings over 15 years, wages will be 4% lower. Young people in low-income economies (4.03%) and lower-middle income ones (4.01%) will lose the most. Those in upper-middle income ones will earn 3.98% less and those in high-income ones 3.99% less. In nominal terms, the effect will be the strongest in East Asia and the Pacific (USD 3.4 trillion in lost money), North America (USD 0.9 trillion), Europe and Central Asia (USD 0.8 trillion). It will be the weakest in the Middle East and North Africa (USD 0.09 trillion), South Asia (USD 0.1 trillion) as well as in Latin America and the Caribbean (USD 0.2 trillion). In Sub-Saharan Africa, there will be USD 0.3 trillion in lost earnings.

↘ Figure 14. **Long-term impact of COVID-19 on the labour market for young people by region and gender (in USD trillion)**



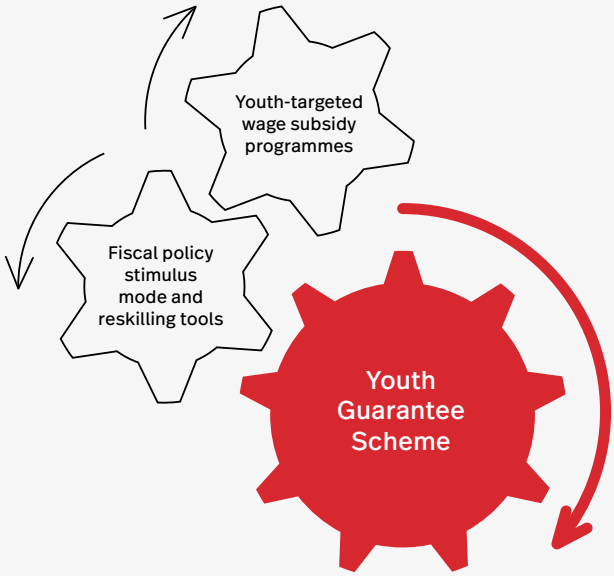
Source: prepared by PEI.

TRIANGLE INTERVENTION PROPOSAL REGARDING YOUNG PEOPLE ON THE LABOUR MARKET

1. **Youth Guarantee Scheme**: It is recommended to provide all young people with a good opportunity in employment, further education or an internship within four months of becoming unemployed or leaving formal education. Decisive action in areas with high rates of youth unemployment is particularly important. The consequences of youth unemployment are not only economic, but also social, which creates the risk of democratic and social exclusion among young people. The possible consequences include a decline in social capital (Putnam, 2000) and an increase in far-right views and violence (Heitmeyer, 1989). As shown by Cloward and Ohlin (1960), high youth unemployment in peri-urban areas can result in a criminal or conflict subculture; this is supported by more recent research (Body-Gendrot, 2013). For unemployed and already qualified young people, the Youth Guarantee Scheme should also serve as a job guarantee (Tcherneva, 2018), which means that young people would gain their first job experience in the public or non-profit sector.
2. **Fiscal policy stimulus mode and reskilling tools.** Counter-cyclical fiscal policy should be used to reduce youth unemployment during the crisis. Fiscal policy must react swiftly and decisively, before the recession reduces the fiscal space even more (Ebell and O'Higgins, 2015). So far, fiscal policy has given due priority to income support for businesses and workers to help them survive until the restrictions are lifted. Once the recovery phase has started, fiscal policy will have to fully revert to the stimulus mode, supporting young people who are (re)entering education, training or the workforce, especially those in the most affected groups. Previous recessions have shown that fiscal policy is likely to be more effective than tax breaks by increasing public spending. Well-designed and coordinated macroeconomic, employment and social policies reinforce each other in supporting economic recovery and employment (ILO, 2013; O'Higgins, 2017). As the hardest hit sectors absorb a high proportion of youth employment, they require that the country's vision for post-pandemic development include tools offering active support for young people in terms of reskilling and changing industry.
3. **Extending support to enterprises and youth-targeted wage-subsidy programmes**: In the short term, loans to young entrepreneurs and youth cooperatives should focus on financial support as well as broader access to business development and coaching services to ensure that enterprises survive the crisis. Support should remove barriers that prevent young people from accessing the available programmes. In a longer term, young entrepreneurs will need help to adapt their business models based on changes in demand (e.g. greater demand for PPE and healthcare products) (Kluve et al., 2017) and to seize opportunities in emerging green sectors. This may include support for investment in ICT infrastructure for improved online marketing and customer services and the adoption of clean technologies. Decreased economic activity also opens up new opportunities as

economies recover. Innovative young people are in an excellent position to capitalise on these changes through start-ups and business development, although they will need a range of support services to do so (ILO, 2020f). With the lifting of restrictions, wage subsidies reduce the costs of retaining, hiring and training young people. Wage subsidies have proven to be effective in increasing the long-term employment prospects of young people, from higher skills, productivity and employability to shifting young people's preferences and behaviour. Extending work-sharing systems (subsidised reductions in working hours) is essential to protect young workers. These kinds of measures should be available to all young workers, irrespective of the type of employment contract.

↘ Figure 15. **Triangle Intervention Proposal regarding the labour market**



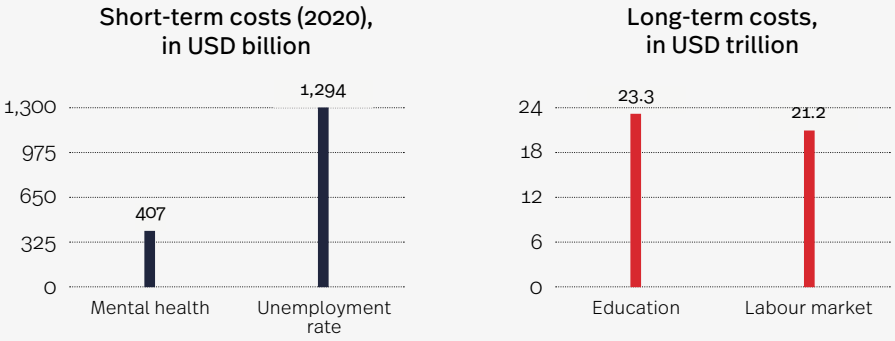
Source: prepared by PEI.

Corona Generation: total costs

This report estimated the total cost of the COVID-19 pact on the Corona Generation, based on the costs in the three dimensions analysed. Two basic time perspectives were considered: short- and long-term. As regards short-term costs, the paper presented the estimated costs of COVID-19 in 2020 relating to mental health and the pandemic's immediate impact on the increase in unemployment among young people. The results confirm that total demand for mental health services in the young generation increased by USD 407 billion in 2020. From the point of view of the short-term increase in the unemployment rate among young people, the lost earnings amount to USD 1,294 billion.

The analysis of long-term costs involved estimating the impact of COVID-19 on education and the labour market. For education, the paper estimated how the deterioration in schooling as a result of school closures would decrease future earnings: by USD 23 trillion globally over the course of the 45-year working lifecycle. For the labour market, total output was divided into two basic gauges. One refers to the increase in permanent unemployment due to the crisis. According to the estimates, almost USD 15.5 trillion (over USD 1 trillion per year) will be lost over 15 years due to COVID-19. The other indicator measures the decrease in earnings among young employees. Based on the calculations, young people will miss out on almost USD 5.7 trillion in earnings over the 15 years – USD 364.3 billion per year. At the individual level, this means that, on average, each young person who stays professionally active will lose USD 1,610 per year. The total long-term costs of COVID-19 for the young generation exceed USD 44 trillion.

↘ Figure 16. **Total estimated short- and long-term costs of COVID-19 for the young generation in terms of education, mental health and the labour market**



Source: prepared by PEI.

Appendix: education

Country	Annual lost earnings PRIMARY MEN	Annual lost earnings PRIMARY WOMEN	Annual lost earnings SECONDARY MEN	Annual lost earnings SECONDARY WOMEN	Annual lost earnings TERTIARY MEN	Annual lost earnings TERTIARY WOMEN
Afghanistan	321,645,802	446,252,316	429,255,243	595,549,965	175,534,383	39,482,282
Albania	15,724,882	30,860,434	20,985,780	41,185,065	1,103,592,342	1,574,045,094
Algeria	162,584,692	239,758,971	216,978,835	319,972,451	347,772,784	461,416,543
American Samoa	40,739	25,519	54,369	34,057	68,397,965	53,438,062
Andorra	519,862	616,215	693,786	822,375	516,731,663	413,743,366
Angola	142,759,670	137,795,448	190,521,178	183,896,130	149,743,425	98,879,078
Antigua and Barbuda	211,450	135,221	282,193	180,460	66,698,597	93,702,737
Argentina	172,056,954	154,496,821	229,620,127	206,185,096	432,533,651	446,372,041
Armenia	30,085,258	27,092,894	40,150,546	36,157,060	681,872,528	970,681,542
Aruba	1,857,327	1,922,510	2,478,712	2,565,702	431,900,293	539,840,220
Australia	665,973,781	327,870,138	888,781,186	437,561,986	1,476,672,265	1,705,292,488
Austria	203,029,664	185,721,514	270,955,030	247,856,286	1,844,848,158	1,580,448,248
Azerbaijan	16,737,494	9,757,405	22,337,171	13,021,831	52,468,947	34,353,099
Bahamas	376,385	273,807	502,308	365,411	87,045,151	68,006,763
Bahrain	355,144	1,580,335	473,961	2,109,050	39,782,432	43,156,836
Bangladesh	125,963,413	178,343,664	168,105,584	238,010,110	73,664,696	60,149,622
Barbados	211,830	141,392	282,700	188,696	74,060,050	104,036,978
Belarus	0	0	0	0	0	0
Belgium	264,881,947	225,748,350	353,500,540	301,274,453	2,168,767,642	2,328,191,559
Belize	3,391,928	4,027,678	4,526,727	5,375,173	244,268,707	263,775,965
Benin	131,622,720	106,700,467	175,658,263	142,398,050	283,837,439	88,159,814
Bermuda	49,212	36,104	65,676	48,183	32,373,104	30,351,814
Bhutan	13,596,323	15,524,252	18,145,093	20,718,028	503,504,189	434,298,251
Bolivia	18,441,306	32,103,642	24,611,007	42,844,199	207,226,827	175,259,858
Bosnia and Herzegovina	4,756,148	7,451,183	6,347,359	9,944,042	174,309,246	250,852,294
Botswana	21,083,761	22,382,270	28,137,520	29,870,457	412,274,744	396,070,991
Brazil	1,138,031,434	920,647,976	1,518,769,891	1,228,658,880	230,377,805	177,452,628
Brunei Darussalam	1,868,665	2,137,594	2,493,843	2,852,745	111,254,385	99,624,635
Bulgaria	121,230,268	80,619,454	161,788,924	107,591,403	1,392,750,713	1,163,607,252

Burkina Faso	414,653,052	358,080,339	553,378,890	477,879,276	280,045,175	76,968,179
Burundi	0	0	0	0	0	0
Cabo Verde	5,484,353	8,854,046	7,319,192	11,816,246	516,417,452	614,727,642
Cambodia	4,767,627	3,118,991	6,362,679	4,162,476	66,798,622	38,125,861
Cameroon	257,310,884	187,783,257	343,396,511	250,607,803	230,746,793	146,747,798
Canada	137,988,778	132,731,406	184,154,141	177,137,869	221,343,497	253,059,756
Cayman Islands	85,562	124,780	114,188	166,526	221,421,539	221,154,348
Central African Republic	3,194,979	3,162,937	4,263,888	4,221,125	21,294,201	6,247,600
Chad	41,227,726	46,356,351	55,020,826	61,865,278	90,229,722	5,243,607
Chile	59,422,546	44,982,447	79,302,883	60,031,721	591,177,860	373,928,196
China	5,455,409,821	4,575,390,112	7,280,565,313	6,106,127,245	557,126,534	287,748,331
Colombia	126,143,312	121,011,097	168,345,670	161,496,427	365,918,264	263,253,935
Comoros	15,710,995	17,500,212	20,967,247	23,355,062	100,947,060	52,631,828
Costa Rica	21,407,805	21,257,341	28,569,975	28,369,172	551,578,342	432,219,696
Côte d'Ivoire	422,660,929	372,497,503	564,065,872	497,119,829	305,281,699	160,021,218
Croatia	68,000,431	61,195,111	90,750,576	81,668,475	1,137,548,702	1,397,713,108
Cuba	58,044,265	55,002,997	77,463,487	73,404,735	571,208,144	579,535,621
Curacao	2,163,649	2,357,886	2,887,517	3,146,737	469,680,814	688,866,888
Cyprus	16,224,968	19,549,121	21,653,175	26,089,452	2,934,883,520	2,037,445,251
Czechia	120,046,055	115,277,406	160,208,522	153,844,479	1,053,020,497	1,015,173,370
Democratic Republic of Congo	114,642,812	28,194,186	152,997,576	37,626,800	132,832,733	41,510,225
Congo, Rep.	7,398,741	2,467,082	9,874,055	3,292,466	238,049,453	89,023,497
Denmark	239,055,242	230,500,113	319,033,282	307,615,960	3,932,614,230	3,205,411,719
Djibouti	8,825,590	9,326,249	11,778,268	12,446,427	129,075,177	37,240,042
Dominican Republic	14,055,110	14,581,440	18,757,371	19,459,789	158,168,842	181,976,397
Ecuador	63,157,575	63,557,004	84,287,499	84,820,561	319,145,904	220,812,423
Egypt	485,734,869	678,025,638	648,241,756	904,865,097	311,580,979	212,193,797
El Salvador	13,501,406	14,432,871	18,018,421	19,261,516	109,091,532	79,947,449
Eritrea	29,224,202	37,853,272	39,001,417	50,517,419	104,297,995	59,142,047
Estonia	30,207,450	25,553,089	40,313,618	34,102,100	2,034,061,416	2,092,121,990
Ethiopia	183,529,973	215,063,426	244,931,545	287,014,793	35,048,020	9,880,587
Fiji	37,393,342	22,693,216	49,903,615	30,285,431	877,983,024	934,453,417
Finland	183,751,237	193,493,979	245,226,834	258,229,097	4,373,855,297	3,352,975,736
France	894,597,858	1,284,392,581	1,193,893,466	1,714,097,451	2,338,995,506	2,107,633,327
French Polynesia	2,034,442	3,966,787	2,715,082	5,293,911	1,156,527,981	1,044,165,453
Gabon	15,147,039	19,353,824	20,214,614	25,828,817	68,029,873	21,303,192

Gambia	953,296	1,359,360	1,272,229	1,814,146	38,205,707	3,109,003
Georgia	6,307,091	6,777,996	8,417,184	9,045,635	220,137,731	143,288,606
Germany	1,521,256,763	1,341,192,801	2,030,206,636	1,789,900,686	1,224,856,181	892,856,344
Ghana	112,849,934	136,104,286	150,604,876	181,639,175	160,593,279	98,849,866
Greece	111,513,688	100,601,915	148,821,576	134,259,173	2,768,046,743	2,035,945,341
Guatemala	31,795,065	31,140,370	42,432,384	41,558,655	86,945,880	59,477,010
Guinea	61,156,089	3,552,609	81,616,398	4,741,166	190,940,864	20,454,957
Guyana	2,560,592	2,695,069	3,417,261	3,596,728	43,636,024	89,956,961
Haiti	51,125,698	57,644,083	68,230,252	76,929,419	244,625,564	94,152,693
Honduras	30,206,204	37,035,630	40,311,956	49,426,227	149,851,203	112,219,393
Hong Kong	17,985,829	15,464,519	24,003,147	20,638,311	737,826,938	347,938,594
Hungary	154,586,161	130,264,344	206,304,326	173,845,430	1,001,145,715	719,096,433
Iceland	17,007,924	16,382,223	22,698,075	21,863,040	2,960,582,648	4,267,734,954
India	2,513,081,164	2,449,009,228	3,353,854,642	3,268,346,874	86,917,455	84,202,715
Indonesia	879,600,683	1,013,221,422	1,173,878,852	1,352,203,589	122,065,751	81,139,775
Iran	35,127,471	151,528,336	46,879,676	202,223,478	112,958,600	60,138,241
Iraq	9,766,832	26,798,440	13,034,411	35,764,094	28,273,005	9,166,487
Ireland	73,352,085	69,629,267	97,892,673	92,924,353	1,264,138,922	1,134,179,738
Israel	112,983,201	163,042,935	150,782,728	217,590,387	1,221,601,518	1,144,437,868
Italy	618,856,453	723,636,274	825,900,340	965,735,174	926,052,924	797,609,453
Jamaica	4,732,842	5,054,377	6,316,256	6,745,364	216,663,430	234,160,663
Japan	1,191,907,201	1,141,612,009	1,590,670,272	1,523,548,379	315,397,026	182,700,259
Jordan	16,689,759	18,481,560	22,273,465	24,664,729	104,398,767	80,581,600
Kazakhstan	52,382,165	75,299,408	69,907,081	100,491,489	266,549,334	216,810,005
Kuwait	4,573,011	21,092,048	6,102,952	28,148,578	159,743,724	197,617,909
Kenya	102,773,230	107,286,897	137,156,921	143,180,676	73,843,233	37,521,409
Korea	601,105,624	552,619,940	802,210,814	737,503,817	2,059,672,030	764,139,385
Kyrgyzstan	54,153,037	36,297,780	72,270,414	48,441,522	211,313,689	131,915,448
Lao PDR	43,176,486	51,921,672	57,621,560	69,292,526	98,669,604	64,930,489
Latvia	11,882,558	11,603,261	15,857,973	15,485,235	754,204,213	887,233,640
Lebanon	5,821,475	6,135,404	7,769,100	8,188,058	74,124,310	118,667,649
Lesotho	12,523,357	24,898,664	16,713,157	33,228,732	217,525,138	268,989,243
Liberia	3,559,890	3,942,733	4,750,883	5,261,809	50,715,476	25,333,849
Libya	14,664,732	20,043,657	19,570,947	26,749,440	354,265,101	281,078,211
Lithuania	43,925,774	36,211,034	58,621,529	48,325,755	1,346,895,018	969,796,124
Luxembourg	10,227,775	9,932,386	13,649,568	13,255,353	375,380,042	336,806,456
Madagascar	140,794,045	155,078,727	187,897,935	206,961,684	67,244,538	41,137,140

Malawi	137,090,050	128,950,548	182,954,736	172,092,091	42,910,713	11,639,050
Malaysia	455,633,107	532,290,988	608,069,183	710,373,635	1,171,323,531	912,688,108
Maldives	7,037,064	8,601,481	9,391,376	11,479,182	557,623,413	1,084,594,855
Mali	213,141,597	202,882,946	284,449,998	270,759,226	175,831,246	41,069,348
Malta	662,797	762,068	884,541	1,017,024	316,705,640	318,784,732
Mauritania	351,072	535,173	468,527	714,220	285,828,488	194,569,842
Mauritius	55,833,914	75,800,771	74,513,642	101,160,587	266,789,944	113,842,754
Mexico	637,619,251	704,510,134	850,940,398	940,210,215	389,733,632	230,208,263
Mongolia	21,126,087	19,869,788	28,194,006	26,517,401	704,072,480	627,613,201
Montenegro	1,021,690	1,184,786	1,363,506	1,581,167	217,412,875	232,151,618
Morocco	359,899,566	387,228,767	480,307,142	516,779,568	708,591,196	554,548,629
Mozambique	68,002,099	51,467,702	90,752,801	68,686,676	35,028,034	26,009,367
Myanmar	71,420,567	81,186,317	95,314,948	108,347,915	48,107,389	58,800,150
Namibia	24,050,371	27,075,705	32,096,635	36,134,121	480,010,751	618,200,202
Nepal	110,722,844	160,970,919	147,766,148	214,825,161	98,697,731	84,548,714
Netherlands	335,601,956	269,969,716	447,880,551	360,290,466	2,643,420,762	2,277,269,594
New Zealand	304,942,870	180,454,808	406,964,198	240,827,556	2,646,881,216	3,301,435,765
Nicaragua	66,583,747	48,802,892	88,859,928	65,130,330	330,008,747	191,655,951
Niger	255,152,834	141,949,619	340,516,466	189,440,116	107,532,765	32,531,428
Nigeria	1,216,312,449	1,167,224,084	1,623,240,511	1,557,729,201	192,060,934	88,308,385
North Macedonia	2,807,918	3,232,195	3,747,332	4,313,555	174,195,014	183,188,859
Norway	305,263,331	373,470,405	407,391,872	498,418,224	3,933,459,265	3,646,488,425
Oman	18,685,243	82,472,054	24,936,555	110,063,808	353,143,912	395,506,212
Pakistan	1,124,702,604	1,233,409,109	1,500,981,784	1,646,057,009	131,222,566	84,188,660
Palau	89,165	242,557	118,996	323,706	468,170,219	600,310,279
Panama	6,254,096	6,847,324	8,346,459	9,138,157	127,972,429	129,568,432
Papua New Guinea	69,642,815	52,068,762	92,942,433	69,488,825	786,558,067	560,409,029
Paraguay	13,414,132	11,142,362	17,901,948	14,870,137	50,881,595	43,629,088
Peru	82,264,569	61,418,356	109,786,907	81,966,409	304,249,059	206,137,408
Philippines	309,348,126	242,497,826	412,843,271	323,627,613	201,630,773	225,975,873
Poland	413,868,326	263,124,507	552,331,627	351,155,133	1,432,959,278	1,346,230,110
Portugal	145,322,589	139,353,161	193,941,543	185,974,991	1,787,361,606	1,390,812,693
Puerto Rico	10,895,358	10,544,633	14,540,497	14,072,433	1,013,960,322	1,027,092,377
Qatar	1,987,665	1,806,007	2,652,656	2,410,223	23,253,267	76,024,987
Republic of Moldova	48,785,310	45,797,967	65,106,866	61,120,080	1,312,246,870	955,219,972
Republic of Sudan	38,427,112	56,172,463	51,283,241	74,965,456	73,335,378	59,629,719

Romania	42,941,250	40,886,653	57,307,624	54,565,643	145,796,154	119,226,129
Russian Federation	2,120,603,150	1,998,996,244	2,830,069,646	2,667,778,076	3,144,727,878	3,248,712,122
Rwanda	34,975,055	35,622,539	46,676,269	47,540,374	39,180,326	18,191,975
Samoa	12,410,893	7,431,949	16,563,067	9,918,374	289,383,239	522,374,343
San Marino	225,878	229,007	301,447	305,624	914,122,768	451,740,030
Saudi Arabia	65,036,964	275,629,084	86,795,655	367,843,227	382,788,971	248,445,561
Senegal	65,472,538	104,222,550	87,376,953	139,091,123	223,867,271	134,313,566
Serbia	54,913,783	51,669,726	73,285,674	68,956,289	910,353,336	942,687,666
Sierra Leone	53,241,743	53,637,601	71,054,238	71,582,534	19,887,832	19,661,441
Singapore	22,013,158	19,710,336	29,377,854	26,304,603	2,038,465,060	992,711,074
Slovakia	38,478,507	37,190,400	51,351,831	49,632,777	371,762,148	371,969,414
Slovenia	33,098,228	30,392,702	44,171,533	40,560,848	2,240,958,236	1,721,006,336
Solomon Islands	12,684,725	2,324,685	16,928,512	3,102,428	1,671,293,006	1,237,425,132
Somalia	206,803,573	282,657,743	275,991,533	377,223,386	999,794,399	998,587,941
South Africa	1,012,499,759	1,058,042,932	1,351,240,487	1,412,020,530	844,334,710	755,776,825
South Sudan	1,896,797	1,474,986	2,531,387	1,968,455	79,844,828	79,748,479
Spain	560,629,948	540,965,582	748,193,644	721,950,390	1,783,246,301	1,921,089,346
Sri Lanka	111,693,961	119,263,404	149,062,161	159,164,029	123,602,137	131,822,318
Suriname	11,138,685	9,450,750	14,865,231	12,612,582	208,232,376	161,587,429
Swaziland	14,534,324	14,339,406	19,396,911	19,136,781	141,168,163	86,857,470
Sweden	378,222,410	380,759,405	504,760,054	508,145,823	3,076,012,353	3,453,883,166
Switzerland	283,470,893	147,815,915	378,308,582	197,269,034	1,836,214,907	1,239,824,366
Syrian Arab Republic	113,536,559	145,450,031	151,521,217	194,111,622	316,406,702	265,078,402
Tajikistan	0	0	0	0	0	0
Thailand	1,308,896,214	1,332,292,439	1,746,798,992	1,778,022,631	1,132,802,517	1,009,361,707
TimorLeste	62,511,673	31,277,195	83,425,505	41,741,256	1,738,796,668	1,290,858,140
Togo	109,827,749	94,657,656	146,571,591	126,326,211	499,399,271	172,582,454
Tonga	4,779,553	4,990,479	6,378,594	6,660,088	2,012,648,410	1,433,977,210
Tunisia	95,766,574	83,884,934	127,806,126	111,949,379	328,734,475	398,771,563
Turkey	264,606,287	363,069,039	353,132,656	484,536,989	484,221,930	286,295,817
Turkmenistan	0	0	0	0	0	0
Tuvalu	70,087	76,205	93,536	101,700	586,717,735	477,394,064
Uganda	7,724,242	4,294,732	10,308,456	5,731,572	15,331,507	7,089,107
Ukraine	344,938,580	467,616,346	460,340,826	624,061,520	1,878,786,665	1,614,661,084
United Arab Emirates	16,052,082	21,039,019	21,422,447	28,077,809	184,883,939	151,978,431
United Kingdom	1,159,571,893	1,146,842,644	1,547,516,902	1,530,528,970	1,479,378,161	1,319,103,900

United Republic of Tanzania	172,802,836	160,309,846	230,615,550	213,942,919	31,652,365	11,572,422
United States	13,045,633,410	10,232,478,302	17,410,165,176	13,655,844,205	34,354,201,811	22,142,462,902
Uruguay	14,665,179	14,510,206	19,571,544	19,364,723	215,260,879	230,303,771
Uzbekistan	820,659,164	1,161,539,993	1,095,217,929	1,550,143,446	486,822,781	265,105,331
Venezuela	54,921,067	59,845,050	73,295,394	79,866,739	100,581,840	94,535,941
Vietnam	514,295,517	451,054,956	686,357,620	601,959,372	662,776,541	348,444,148
Yemen	614,974,322	761,718,571	820,719,408	1,016,558,240	612,586,517	175,686,115
Zambia	33,206,886	28,320,786	44,316,542	37,795,755	108,384,746	40,459,128
Zimbabwe	77,628,427	112,717,554	103,599,702	150,428,206	221,282,286	148,650,214

Appendix: health

Country	Direct costs				Indirect costs		Total costs	
	On health systems		On social benefits		On the labour market			
	in million EUR	% of GDP	in million EUR	% of GDP	in million EUR	% of GDP	in million EUR	% of GDP
Afghanistan	13	0.07	58	0.30	103	0.53	174	0.90
Albania	75	0.49	33	0.21	59	0.39	167	1.09
Algeria	573	0.34	251	0.15	450	0.26	1,274	0.74
Andorra	28	0.09	12	0.04	22	0.07	63	0.20
Angola	129	0.14	56	0.06	101	0.11	286	0.32
Antigua and Barbuda	5	0.30	2	0.13	4	0.24	11	0.67
Argentina	965	0.22	422	0.09	757	0.17	2,144	0.48
Armenia	43	0.31	19	0.14	34	0.25	96	0.70
Aruba	4	0.12	2	0.05	3	0.09	8	0.26
Australia	1,964	0.14	860	0.06	1,540	0.11	4,364	0.31
Austria	954	0.26	397	0.11	815	0.22	2,166	0.59
Azerbaijan	64	0.13	28	0.06	50	0.10	142	0.30
Bahamas, The	9	0.07	41	0.30	73	0.53	122	0.90
Bahrain	139	0.36	61	0.16	109	0.28	310	0.80
Bangladesh	54	0.02	24	0.01	42	0.01	120	0.04
Barbados	5	0.10	2	0.05	4	0.08	12	0.23
Belarus	46	0.07	20	0.03	36	0.06	102	0.16
Belgium	1,166	0.27	626	0.14	1,268	0.29	3,060	0.70

Belize	3	0.17	1	0.08	3	0.13	7	0.38
Benin	61	0.42	27	0.18	48	0.33	135	0.94
Bermuda	21	0.28	9	0.12	17	0.22	47	0.62
Bhutan	2	0.07	1	0.03	1	0.06	4	0.16
Bolivia	28	0.07	12	0.03	22	0.05	63	0.15
Bosnia and Herzegovina	44	0.22	19	0.09	34	0.17	97	0.48
Botswana	59	0.32	26	0.14	46	0.25	131	0.71
Brazil	725	0.04	317	0.02	569	0.03	1,611	0.09
Brunei Darussalam	10	0.08	5	0.03	8	0.06	23	0.17
Bulgaria	86	0.15	29	0.05	40	0.07	155	0.28
Burkina Faso	7	0.04	30	0.19	54	0.34	91	0.57
Burundi	3	0.11	1	0.05	3	0.09	8	0.25
Cabo Verde	2	0.10	1	0.04	1	0.07	4	0.21
Cambodia	14	0.05	6	0.02	11	0.04	30	0.11
Cameroon	114	0.29	50	0.13	90	0.23	254	0.65
Canada	1,910	0.11	836	0.05	1,498	0.09	4,244	0.24
Central African Republic	3	0.13	1	0.06	2	0.11	7	0.30
Chad	7	0.06	3	0.03	6	0.05	16	0.14
Chile	94	0.03	41	0.01	74	0.03	209	0.07
China	31,688	0.22	13,869	0.10	24,850	0.17	70,407	0.49
Colombia	557	0.17	244	0.08	437	0.13	1,238	0.38
Comoros	8	0.70	4	0.31	6	0.55	18	1.57
Congo, Dem. Rep.	25	0.05	11	0.02	19	0.04	55	0.11
Congo, Rep.	13	0.11	6	0.05	11	0.09	30	0.24
Costa Rica	64	0.10	28	0.05	50	0.08	143	0.23
Cote d'Ivoire	105	0.18	46	0.08	83	0.14	234	0.40
Croatia	105	0.21	54	0.11	95	0.19	253	0.51
Cuba	130	0.13	57	0.06	102	0.10	289	0.29
Cyprus	51	0.25	18	0.09	34	0.17	103	0.50
Czech Republic	336	0.16	102	0.05	166	0.08	604	0.29
Denmark	750	0.26	608	0.21	777	0.27	2,135	0.74
Djibouti	9	0.27	4	0.12	7	0.21	20	0.61
Dominica	317	0.54	1	0.00	2	0.00	321	0.55
Dominican Republic	51	0.06	22	0.03	40	0.04	113	0.13
Ecuador	59	0.05	26	0.02	46	0.04	130	0.12
Egypt, Arab Rep.	351	0.12	154	0.05	275	0.09	780	0.26

El Salvador	35	0.13	15	0.06	27	0.10	77	0.29
Equatorial Guinea	59	0.54	26	0.24	47	0.42	132	1.20
Eritrea	27	0.03	12	0.01	21	0.02	61	0.06
Estonia	45	0.17	18	0.07	26	0.10	89	0.34
Eswatini	4	0.09	2	0.04	3	0.07	9	0.21
Ethiopia	45	0.05	20	0.02	35	0.04	100	0.10
Fiji	19	0.34	8	0.15	15	0.27	41	0.75
Finland	543	0.25	409	0.19	622	0.28	1,575	0.71
France	6,274	0.28	2,827	0.13	3,429	0.15	12,529	0.56
Gabon	0	0.00	13	0.08	24	0.14	37	0.22
Gambia, The	4	0.20	2	0.09	3	0.16	8	0.44
Georgia	32	0.18	14	0.08	25	0.14	70	0.40
Germany	8,288	0.26	3,907	0.12	7,443	0.24	19,638	0.62
Ghana	124	0.19	54	0.08	98	0.15	276	0.41
Greece	419	0.24	134	0.08	187	0.11	740	0.43
Grenada	3	0.28	2	0.12	3	0.22	8	0.63
Guatemala	312	0.41	136	0.18	244	0.32	692	0.90
Guinea	8	0.06	34	0.27	61	0.49	102	0.83
Guinea-Bissau	9	0.69	4	0.30	7	0.54	20	1.52
Guyana	20	0.39	9	0.17	16	0.31	45	0.86
Haiti	10	0.07	4	0.03	8	0.05	22	0.15
Honduras	23	0.09	10	0.04	18	0.07	52	0.21
Hong Kong SAR, China	303	0.08	133	0.04	238	0.07	674	0.18
Hungary	283	0.21	70	0.05	174	0.13	528	0.39
Iceland	218	0.90	10	0.04	17	0.07	245	1.01
India	131	0.00	57	0.00	103	0.00	291	0.01
Indonesia	185	0.02	81	0.01	145	0.01	411	0.04
Iran, Islamic Rep.	725	0.16	317	0.07	568	0.13	1,611	0.35
Iraq	333	0.14	146	0.06	261	0.11	739	0.32
Ireland	520	0.16	220	0.07	610	0.19	1,350	0.42
Israel	1,356	0.34	594	0.15	1,064	0.27	3,014	0.76
Italy	3,609	0.22	1,409	0.09	2,023	0.12	7,041	0.43
Jamaica	27	0.16	12	0.07	21	0.13	60	0.37
Japan	1,396	0.03	611	0.01	1,095	0.02	3,102	0.06
Jordan	46	0.10	20	0.04	36	0.08	101	0.23
Kazakhstan	405	0.22	177	0.10	317	0.17	899	0.49

Kenya	111	0.12	48	0.05	87	0.09	246	0.26
Kiribati	1	0.55	0	0.24	1	0.43	2	1.22
Korea, Rep.	964	0.06	422	0.03	756	0.05	2,142	0.13
Kuwait	156	0.12	68	0.05	1,221	0.91	1,445	1.07
Kyrgyz Republic	15	0.18	7	0.08	12	0.14	34	0.41
Lao PDR	10	0.05	4	0.02	8	0.04	22	0.12
Latvia	54	0.19	17	0.06	46	0.16	117	0.42
Lebanon	67	0.13	29	0.06	52	0.10	149	0.29
Lesotho	2	0.07	7	0.29	13	0.53	21	0.89
Liberia	9	0.29	4	0.13	7	0.23	20	0.65
Lithuania	75	0.17	27	0.06	47	0.10	149	0.33
Luxembourg	93	0.16	79	0.14	73	0.13	245	0.42
Madagascar	62	0.44	27	0.19	48	0.34	137	0.97
Malawi	8	0.10	3	0.04	6	0.08	17	0.23
Malaysia	599	0.16	262	0.07	470	0.13	1,331	0.36
Maldives	17	0.30	4	0.07	7	0.12	27	0.48
Mali	59	0.34	26	0.15	46	0.27	130	0.75
Malta	27	0.22	4	0.03	18	0.15	50	0.40
Marshall Islands	0	0.17	0	0.08	0	0.14	1	0.39
Mauritania	12	0.16	5	0.07	10	0.13	27	0.35
Mauritius	55	0.39	24	0.17	43	0.31	122	0.87
Mexico	674	0.05	295	0.02	529	0.04	1,498	0.12
Micronesia, Fed. Sts.	3	0.01	124	0.31	2	0.01	129	0.32
Moldova	24	0.20	10	0.09	19	0.16	53	0.44
Monaco	190	0.26	8	0.12	15	0.21	213	0.59
Mongolia	30	0.21	13	0.09	23	0.17	66	0.47
Morocco	225	0.19	98	0.08	176	0.15	500	0.42
Mozambique	44	0.29	19	0.13	34	0.23	98	0.64
Myanmar	162	0.21	71	0.09	127	0.17	361	0.47
Namibia	7	0.06	3	0.03	6	0.05	16	0.13
Nauru	0	0.07	0	0.03	0	0.05	0	0.14
Nepal	102	0.33	45	0.15	80	0.26	226	0.74
Netherlands	1,811	0.24	1,174	0.16	2,057	0.28	5,042	0.68
New Zealand	1,703	0.82	745	0.36	134	0.06	2,581	1.25
Nicaragua	26	0.21	12	0.09	21	0.16	58	0.47
Niger	48	0.37	21	0.16	37	0.29	106	0.82
Nigeria	152	0.03	67	0.01	120	0.03	339	0.08

North Macedonia	38	0.30	17	0.13	30	0.24	85	0.67
Norway	2,638	0.65	1,155	0.29	2,069	0.51	5,862	1.45
Oman	117	0.15	51	0.07	92	0.12	259	0.34
Pakistan	89	0.03	39	0.01	69	0.02	197	0.07
Palau	9	0.34	4	0.15	7	0.27	20	0.76
Panama	84	0.13	37	0.05	66	0.10	186	0.28
Papua New Guinea	51	0.20	22	0.09	40	0.16	113	0.45
Paraguay	502	0.13	220	0.06	394	0.10	1,116	0.29
Peru	355	0.16	155	0.07	278	0.12	789	0.35
Philippines	198	0.05	87	0.02	155	0.04	440	0.12
Poland	1,066	0.22	337	0.07	629	0.13	2,032	0.42
Portugal	457	0.23	184	0.09	403	0.21	1,043	0.53
Qatar	247	0.14	1,080	0.61	193	0.11	1,520	0.86
Romania	311	0.15	76	0.04	156	0.08	543	0.26
Russian Federation	537	0.03	235	0.01	421	0.02	1,192	0.07
Rwanda	9	0.08	4	0.04	7	0.07	19	0.19
Samoa	2	0.24	1	0.11	2	0.19	5	0.54
San Marino	2	0.12	1	0.05	2	0.09	4	0.27
Sao Tome and Principe	1	0.30	1	0.13	1	0.24	3	0.67
Saudi Arabia	1,806	0.23	790	0.10	1,416	0.18	4,012	0.51
Senegal	94	0.40	41	0.18	74	0.31	210	0.89
Serbia	54	0.10	24	0.05	42	0.08	120	0.23
Seychelles	6	0.35	3	0.15	5	0.27	13	0.77
Sierra Leone	20	0.48	9	0.21	16	0.38	44	1.08
Singapore	1,449	0.39	63	0.02	1,136	0.31	2,649	0.71
Slovak Republic	139	0.16	63	0.07	112	0.13	314	0.36
Slovenia	95	0.21	29	0.07	93	0.21	217	0.49
Solomon Islands	8	0.49	3	0.21	6	0.39	17	1.09
Somalia	96	0.10	4	0.00	7	0.01	107	0.11
South Africa	658	0.19	29	0.01	516	0.15	1,202	0.34
South Sudan	199	0.65	9	0.03	16	0.05	223	0.73
Spain	3,268	0.29	1,396	0.12	2,548	0.22	7,212	0.63
Sri Lanka	230	0.27	101	0.12	181	0.21	512	0.61
St. Kitts and Nevis	8	0.71	3	0.31	6	0.56	17	1.59
St. Lucia	3	0.15	1	0.07	2	0.12	7	0.33
St. Vincent and the Grenadines	2	0.30	1	0.13	2	0.24	6	0.67

Sudan	20	0.07	9	0.03	16	0.05	44	0.14
Suriname	6	0.16	3	0.07	5	0.12	13	0.35
Sweden	1,252	0.29	831	0.19	1,168	0.27	3,252	0.75
Switzerland	2,910	0.41	13	0.00	23	0.00	2,946	0.42
Syrian Arab Republic	313	0.07	137	0.03	246	0.05	697	0.15
Tajikistan	13	0.15	5	0.07	10	0.01	28	0.23
Tanzania	65	0.10	28	0.04	51	0.08	144	0.23
Thailand	257	0.05	113	0.02	202	0.04	571	0.11
Timor-Leste	21	1.02	1	0.04	2	0.08	23	1.14
Togo	68	1.24	0	0.01	1	0.01	69	1.25
Tonga	2	0.33	1	0.14	1	0.26	4	0.72
Trinidad and Tobago	100	0.41	4	0.02	8	0.03	112	0.46
Tunisia	41	0.11	18	0.05	32	0.08	91	0.23
Turkey	573	0.08	251	0.03	449	0.06	1,273	0.17
Turkmenistan	61	0.15	3	0.01	5	0.01	68	0.17
Tuvalu	0	0.72	0	0.31	0	0.56	1	1.59
Uganda	86	0.25	38	0.11	68	0.19	192	0.55
Ukraine	214	0.14	93	0.06	167	0.11	475	0.31
United Arab Emirates	1,555	0.37	680	0.16	1,219	0.29	3,455	0.82
United Kingdom	8,135	0.35	2,540	0.11	6,591	0.28	17,267	0.74
United States	42,892	0.20	18,773	0.09	33,636	0.16	95,301	0.44
Uruguay	91	0.16	40	0.07	71	0.13	202	0.36
Uzbekistan	225	0.39	99	0.17	177	0.31	501	0.86
Vanuatu	1	0.09	4	0.40	7	0.71	11	1.20
Venezuela, RB	489	0.10	214	0.04	383	0.08	1,087	0.23
Vietnam	177	0.07	77	0.03	139	0.05	393	0.15
Yemen, Rep.	99	0.44	43	0.19	78	0.34	220	0.97
Zambia	12	0.05	54	0.23	10	0.04	75	0.32
Zimbabwe	12	0.06	53	0.25	10	0.04	75	0.35

Appendix: labour market

Country	Impact on lost earnings for the unemployed		Impact on lost earnings for the employed		Total impact on the labour market	
	Women	Men	Women	Men	Women	Men
Afghanistan	2,729,668,935	5,331,544,974	428,045,193	3,331,270,255	3,157,714,128	8,662,815,229
Albania	791,606,388	819,038,742	139,850,875	264,783,141	931,457,263	1,083,821,883
Andorra	106,706,685	117,285,856	33,611,489	64,323,517	140,318,174	181,609,374
Angola	10,953,059,871	11,504,130,221	5,285,167,462	6,609,305,860	16,238,227,333	18,113,436,081
Argentina	31,576,682,362	4,466,242,781	2,659,035,957	6,504,323,698	34,235,718,319	10,970,566,478
Armenia	349,121,189	407,683,817	60,564,946	137,346,636	409,686,136	545,030,453
Aruba	93,677,555	98,060,387	29,507,450	53,779,622	123,185,005	151,840,008
Australia	22,222,710,484	20,910,076,372	21,866,977,080	33,142,000,532	44,089,687,564	54,052,076,904
Austria	5,667,148,250	8,331,359,687	5,674,559,089	10,640,741,032	11,341,707,339	18,972,100,719
Azerbaijan	1,726,061,139	2,551,826,890	599,440,577	1,209,768,117	2,325,501,716	3,761,595,007
Bahrain	1,813,381,510	4,175,037,022	422,755,927	2,660,889,130	2,236,137,437	6,835,926,152
Bangladesh	19,367,963,984	18,204,832,610	4,204,765,056	11,749,082,540	23,572,729,040	29,953,915,150
Barbados	201,098,962	141,020,405	57,611,726	60,343,288	258,710,688	201,363,692
Belarus	2,401,532,064	2,838,896,608	935,805,812	1,463,816,827	3,337,337,876	4,302,713,435
Belgium	14,241,801,435	723,398,265	3,797,294,741	4,631,462,675	18,039,096,176	5,354,860,941
Belize	156,253,118	141,264,823	41,628,149	101,234,392	197,881,267	242,499,215
Benin	1,550,954	1,269,135	657,933	595,929	2,208,888	1,865,064
Bermuda	187,088,368	163,448,556	58,930,878	89,640,698	246,019,246	253,089,253
Bolivia	3,115,857,939	2,985,207,328	2,886,629,393	4,873,779,353	6,002,487,332	7,858,986,681
Bosnia and Herzegovina	705,606,547	715,099,449	90,355,375	241,292,955	795,961,922	956,392,404
Botswana	660,786,000	777,604,953	147,876,539	320,801,729	808,662,539	1,098,406,682
Brazil	26,290,720,482	77,165,193,483	25,333,778,118	46,742,720,434	51,624,498,600	123,907,913,917
Brunei Darussalam	475,293,134	479,798,153	111,663,173	173,385,774	586,956,307	653,183,927
Bulgaria	1,208,542,597	1,228,783,242	351,212,060	707,034,660	1,559,754,657	1,935,817,902
Burkina Faso	2,253,737,610	3,478,937,445	851,994,395	2,418,325,595	3,105,732,005	5,897,263,040
Burundi	442,289,494	289,891,504	245,339,488	171,990,913	687,628,982	461,882,417
Cambodia	2,988,789,636	2,908,175,862	1,956,878,315	2,745,614,867	4,945,667,951	5,653,790,728
Cameroon	3,449,188,660	5,411,238,759	1,621,244,790	3,795,517,896	5,070,433,449	9,206,756,655
Canada	190,812,578,586	202,853,991,428	29,590,414,744	41,280,181,719	220,402,993,330	244,134,173,146

Cabo Verde	138,185,503	132,138,565	28,133,528	48,477,582	166,319,031	180,616,147
Chad	2,170,318,364	2,863,155,124	1,146,568,322	1,902,499,939	3,316,886,685	4,765,655,063
Chile	16,959,576,080	38,242,754,417	2,719,471,855	4,724,823,455	19,679,047,935	42,967,577,873
China	3,493,211,750,127	3,169,707,952,393	1,339,977,977,455	1,661,749,998,641	4,833,189,727,582	4,831,457,951,035
Colombia	27,787,583,900	27,436,556,813	4,116,414,604	7,678,321,379	31,903,998,504	35,114,878,192
Comoros	143,903,653	130,374,409	18,424,557	19,308,760	162,328,210	149,683,169
Costa Rica	6,312,014,110	12,198,309,598	623,428,946	1,224,973,903	6,935,443,055	13,423,283,501
Côte d'Ivoire	3,433,941,693	3,646,976,285	961,970,323	1,700,935,611	4,395,912,016	5,347,911,896
Croatia	1,393,909,317	264,525,540	866,779,004	1,562,969,075	2,260,688,321	1,827,494,615
Cyprus	179,980,594	1,739,958,603	583,379,259	885,705,852	763,359,853	2,625,664,455
Czechia	3,383,064,632	1,355,152,848	1,651,500,530	3,070,489,634	5,034,565,162	4,425,642,481
Democratic Republic of Congo	2,339,468,122	2,497,787,845	824,447,194	910,901,099	3,163,915,316	3,408,688,945
Dominican Republic	2,085,408,177	2,051,227,420	532,053,897	1,293,732,505	2,617,462,074	3,344,959,925
Dubai	5,558,011,571	5,261,626,795	661,586,185	1,993,095,596	6,219,597,756	7,254,722,391
Ecuador	5,125,296,874	3,439,916,702	1,904,969,378	3,417,266,555	7,030,266,252	6,857,183,257
Egypt	7,856,851,238	10,333,030,489	855,692,151	3,703,124,881	8,712,543,389	14,036,155,370
El Salvador	1,663,060,450	1,328,232,107	444,620,932	866,600,483	2,107,681,382	2,194,832,590
Estonia	686,344,122	716,362,402	250,142,892	376,159,354	936,487,014	1,092,521,756
Ethiopia	4,204,644,670	5,218,588,325	2,647,197,898	4,793,537,860	6,851,842,568	10,012,126,186
Fiji	291,564,002	277,049,420	56,926,341	157,415,303	348,490,343	434,464,723
Finland	11,436,933,445	7,637,092,728	3,806,446,773	4,880,961,429	15,243,380,218	12,518,054,157
France	82,061,919,968	6,638,159,744	22,903,317,861	37,040,218,283	104,965,237,830	43,678,378,027
French Polynesia	788,792,007	730,737,321	155,384,427	269,765,704	944,176,435	1,000,503,025
Gambia	142,413,239	161,040,472	42,706,019	83,910,131	185,119,258	244,950,603
Georgia	604,645,379	859,879,408	109,140,913	385,548,849	713,786,292	1,245,428,257
Germany	163,602,461,073	175,676,199,777	72,924,868,892	109,138,221,186	236,527,329,964	284,814,420,963
Ghana	1,593,503,282	4,303,978,291	545,619,353	2,160,842,154	2,139,122,635	6,464,820,445
Gibraltar	29,107,258	37,532,420	9,168,482	20,584,044	38,275,740	58,116,465
Greece	2,204,695,076	4,555,679,551	653,036,417	970,256,787	2,857,731,493	5,525,936,338
Guam	278,294,864	371,009,950	105,471,496	270,967,847	383,766,360	641,977,797
Guatemala	4,843,101,088	3,946,016,641	1,351,956,236	3,586,968,171	6,195,057,324	7,532,984,812
Guyana	189,409,457	276,565,115	53,038,224	172,440,691	242,447,680	449,005,806
Haiti	2,353,510,889	706,259,522	400,709,069	259,426,234	2,754,219,959	965,685,757
Honduras	2,432,967,712	1,847,320,481	816,137,112	1,609,340,539	3,249,104,824	3,456,661,020
Hong Kong	6,907,976,656	7,276,410,509	2,588,223,674	3,272,407,637	9,496,200,330	10,548,818,145
Hungary	11,112,253,638	6,599,045,154	1,239,461,155	2,665,190,612	12,351,714,793	9,264,235,766

Iceland	1,033,295,950	1,203,091,158	1,012,016,974	1,302,703,949	2,045,312,924	2,505,795,107
India	100,695,357,280	154,998,347,129	7,304,956,221	64,726,242,464	108,000,313,501	219,724,589,593
Indonesia	11,246,698,960	15,366,554,496	8,601,036,476	18,068,128,532	19,847,735,435	33,434,683,027
Ireland	16,103,972,776	6,968,029,296	2,498,829,514	4,584,441,424	18,602,802,290	11,552,470,720
Isle of Man	145,632,382	163,853,308	45,872,676	89,862,677	191,505,059	253,715,985
Israel	13,084,901,710	21,130,937,134	5,647,622,436	11,879,708,875	18,732,524,146	33,010,646,009
Italy	25,070,807,969	24,580,721,643	3,581,183,215	6,703,435,974	28,651,991,184	31,284,157,617
Jamaica	779,092,607	712,370,951	168,615,974	277,406,657	947,708,581	989,777,608
Japan	1,061,724,359	3,359,442,916	4,582,454,838	6,518,622,710	5,644,179,198	9,878,065,626
Jordan	3,461,466,940	2,804,623,404	125,708,158	914,277,819	3,587,175,097	3,718,901,223
Kazakhstan	6,226,726,811	7,621,140,297	2,047,823,319	3,940,176,485	8,274,550,130	11,561,316,782
Korea	61,775,289,931	85,514,959,476	18,458,587,819	25,577,356,629	80,233,877,750	111,092,316,105
Kuwait	3,587,147,397	4,606,869,138	426,988,525	1,745,074,470	4,014,135,922	6,351,943,609
Kyrgyzstan	622,017,713	-157,387,551	126,729,108	-91,579,172	748,746,821	-248,966,723
Lao PDR	1,787,703,569	1,525,987,648	1,069,922,449	1,081,070,506	2,857,626,018	2,607,058,154
Latvia	166,755,366	1,490,030,177	281,330,040	403,145,175	448,085,406	1,893,175,353
Lebanon	4,003,766,593	2,934,107,569	537,919,177	1,306,277,364	4,541,685,770	4,240,384,932
Liberia	508,913,968	333,066,052	260,821,723	239,560,056	769,735,691	572,626,107
Lithuania	766,171,593	2,023,882,284	547,184,795	761,793,720	1,313,356,389	2,785,676,005
Luxembourg	3,892,581,149	4,367,318,573	471,037,511	692,035,557	4,363,618,660	5,059,354,130
Madagascar	1,007,434,315	1,220,765,035	694,061,483	1,148,577,678	1,701,495,798	2,369,342,713
Malaysia	18,005,697,101	17,037,928,641	5,201,021,039	9,259,344,918	23,206,718,140	26,297,273,559
Maldives	177,247,865	462,759,068	61,272,610	328,755,085	238,520,475	791,514,152
Mali	799,993,648	1,965,222,225	368,185,714	1,368,798,527	1,168,179,361	3,334,020,752
Malta	414,315,660	469,279,304	199,512,637	278,176,308	613,828,297	747,455,612
Mauritius	386,662,385	418,250,351	93,216,239	196,386,389	479,878,623	614,636,741
Mexico	14,655,930,044	19,018,516,260	7,793,605,951	18,162,630,917	22,449,535,995	37,181,147,177
Republic of Moldova	1,322,515,759	630,118,667	101,359,069	145,606,656	1,423,874,828	775,725,323
Mongolia	1,611,113,077	823,435,548	142,543,443	298,543,129	1,753,656,520	1,121,978,678
Montenegro	221,715,797	219,166,759	43,930,947	72,210,286	265,646,744	291,377,045
Myanmar	916,134,397	790,718,423	1,527,127,210	3,084,638,740	2,443,261,607	3,875,357,163
Namibia	1,042,339,822	963,599,405	159,944,633	244,253,172	1,202,284,455	1,207,852,578
Nepal	2,693,039,016	2,990,426,007	2,014,807,389	2,716,399,775	4,707,846,405	5,706,825,783
Netherlands	18,328,034,427	40,337,566,613	42,642,204,301	52,100,135,806	60,970,238,727	92,437,702,419
New Zealand	7,246,068,337	8,602,554,215	3,911,608,417	6,234,263,833	11,157,676,753	14,836,818,048
Nicaragua	817,880,763	759,765,314	194,557,872	597,092,240	1,012,438,635	1,356,857,554
Niger	1,684,002,641	1,940,612,941	825,586,400	1,751,823,892	2,509,589,041	3,692,436,833

Nigeria	325,392,296,548	319,887,202,272	67,237,462,525	118,258,227,957	392,629,759,072	438,145,430,229
North Macedonia	258,871,899	311,849,047	100,679,986	238,248,331	359,551,885	550,097,378
Norway	4,387,097,196	7,450,029,677	7,189,460,763	10,359,127,876	11,576,557,959	17,809,157,553
Pakistan	16,848,361,187	24,672,917,649	2,799,924,714	17,897,693,699	19,648,285,901	42,570,611,348
Panama	2,425,354,495	2,114,303,882	660,365,300	1,385,749,031	3,085,719,794	3,500,052,913
Paraguay	1,884,452,968	1,869,010,985	734,800,300	1,505,610,112	2,619,253,268	3,374,621,097
Peru	11,898,846,388	30,650,445,778	4,790,227,130	6,436,836,800	16,689,073,518	37,087,282,578
Philippines	7,291,086,929	5,031,279,042	5,992,099,650	10,231,852,029	13,283,186,579	15,263,131,072
Poland	2,863,149,312	30,073,996,306	7,626,226,383	13,234,484,299	10,489,375,696	43,308,480,605
Portugal	4,602,619,171	1,099,895,788	1,153,225,988	1,737,561,750	5,755,845,159	2,837,457,538
Qatar	3,080,140,683	11,684,292,481	1,047,258,388	10,813,527,132	4,127,399,071	22,497,819,613
Romania	10,298,184,616	9,188,119,314	2,053,417,117	3,413,627,608	12,351,601,733	12,601,746,922
Russian Federation	47,181,082,106	55,610,297,999	10,906,903,222	20,888,704,326	58,087,985,327	76,499,002,325
Rwanda	528,211,604	718,653,411	321,218,605	573,001,469	849,430,209	1,291,654,880
Samoa	72,831,874	60,492,454	13,629,819	24,268,241	86,461,693	84,760,696
San Marino	14,566,092	13,577,924	4,588,167	7,446,591	19,154,259	21,024,515
Saudi Arabia	40,339,109,067	44,371,782,206	1,295,816,451	12,831,376,193	41,634,925,517	57,203,158,399
Serbia	2,400,153,130	2,342,565,761	351,602,427	728,767,097	2,751,755,558	3,071,332,858
Seychelles	5,022,703	5,694,014	833,598	1,993,266	5,856,301	7,687,281
Singapore	9,401,184,118	9,985,698,831	3,260,152,619	5,137,809,252	12,661,336,736	15,123,508,082
Slovakia	2,140,516,256	1,444,902,263	663,212,586	1,618,884,265	2,803,728,842	3,063,786,528
Slovenia	1,398,808,530	788,682,654	413,638,647	652,022,502	1,812,447,177	1,440,705,156
South Africa	10,182,837,074	9,790,173,436	872,627,599	1,644,720,949	11,055,464,673	11,434,894,385
Spain	62,752,234,882	68,912,709,543	8,258,811,254	13,851,271,248	71,011,046,136	82,763,980,791
Sri Lanka	2,277,095,588	2,181,124,852	312,908,001	916,059,512	2,590,003,589	3,097,184,364
Republic of Sudan	17,446,241,166	83,782,917,986	8,919,534,465	49,311,939,405	26,365,775,631	133,094,857,391
Swaziland	318,570,284	297,247,871	97,326,594	74,888,129	415,896,878	372,135,999
Sweden	26,494,880,074	22,360,344,942	8,263,522,641	9,560,883,892	34,758,402,715	31,921,228,834
Switzerland	1,279,217,570	12,901,979,993	18,437,296,038	23,983,482,506	19,716,513,608	36,885,462,499
Syrian Arab Republic	23,064,620,654	17,252,329,597	957,285,639	9,096,369,315	24,021,906,292	26,348,698,913
Tajikistan	923,385,539	-234,516,625	155,189,646	-75,214,167	1,078,575,185	-309,730,792
Thailand	7,971,882,248	2,861,584,849	6,087,184,261	9,573,332,329	14,059,066,509	12,434,917,178
Timor-Leste	356,713,734	259,749,511	112,973,346	131,354,376	469,687,080	391,103,887
Togo	910,588,274	885,040,614	536,248,768	663,894,119	1,446,837,042	1,548,934,733
Tonga	44,129,662	52,043,358	10,178,695	30,411,395	54,308,357	82,454,753
Trinidad and Tobago	739,120,707	692,752,697	212,525,044	384,691,176	951,645,750	1,077,443,874

Turkey	47,785,055,599	43,403,118,182	10,525,974,312	24,630,800,376	58,311,029,911	68,033,918,558
Uganda	2,912,873,658	3,711,076,065	1,371,656,814	2,474,646,333	4,284,530,472	6,185,722,398
Ukraine	7,198,824,932	8,005,265,865	1,595,993,277	2,986,657,146	8,794,818,209	10,991,923,010
United Arab Emirates	7,410,289,350	20,985,957,979	2,141,793,870	16,122,981,899	9,552,083,220	37,108,939,878
United Kingdom	38,809,145,165	2,916,719,257	47,322,112,723	81,260,465,011	86,131,257,888	84,177,184,268
United Republic of Tanzania	6,841,426,764	7,207,181,255	4,417,904,881	6,476,626,459	11,259,331,645	13,683,807,714
United States	2,366,806,952,544	2,518,881,797,440	278,965,897,449	411,073,283,437	2,645,772,849,992	2,929,955,080,877
Uruguay	1,771,940,332	1,911,210,915	506,579,266	1,008,926,439	2,278,519,598	2,920,137,354
Uzbekistan	4,974,355,183	6,619,428,396	1,485,712,803	4,220,787,972	6,460,067,986	10,840,216,368
Vanuatu	84,548,748	95,125,854	37,201,482	66,330,715	121,750,231	161,456,570
Vietnam	16,941,113,455	4,172,202,881	8,094,517,532	11,934,655,183	25,035,630,987	16,106,858,064
Yemen	3,481,586,281	3,518,616,774	98,156,455	1,625,995,980	3,579,742,735	5,144,612,754
Zambia	4,414,034,867	4,300,444,307	1,782,736,017	2,348,835,485	6,196,770,884	6,649,279,792
Zimbabwe	3,713,879,762	3,304,224,964	2,255,894,828	3,102,364,707	5,969,774,590	6,406,589,671

References

Allas, T., Chinn, D., Sjatil, Pal Erik Zimmerman, W. (2020), *Well-being in Europe: Addressing the high cost of COVID-19 on life satisfaction*.

American Psychiatric Association (2020), *Considerations for family and other personal losses due to COVID-19–related death*, https://www.psychiatry.org/File Library/Psychiatrists/APA--Guidance-Death-Dying-Personal-Bereavement.pdf [accessed: 10.02.2021].

Andersson, G. et al. (2014), *Guided Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: a systematic review and meta-analysis*, World Psychiatry, No. 13(3), doi: 10.1002/wps.20151.

Angrist, N., Bergman, P., Matsheng, M. (2020), *School's Out: Experimental Evidence on Limiting Learning Loss Using 'Low-Tech' in a Pandemic*, IZA DP, No. 14009.

Azevedo, J.P. et al. (2020), *Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes*, Policy Research Working Paper, No. 9284, World Bank Group (June), Washington, DC.

Banerjee, A.V., Duflo, E. (2005), *Growth Theory through the Lens of Development Economics*, (In:) Philippe, A., Steven, D. (eds), *Handbook of Economic Growth*, Elsevier, Amsterdam.

Becker, G. (1964), *Human Capital: A Theory and Empirical Analysis*, National Bureau of Economic Research, Cambridge.

Body-Gendrot, S. (2013), *Urban violence in France and England: comparing Paris (2005) and London (2011)*, „Policing and Society", No. 23(1).

Card, D. (1999), *The Causal Effect of Education on Earnings*, (In:) Ashenfelter, O., Card, D. (eds), *Handbook of Economic Growth*, Elsevier, North-Holland, Amsterdam.

Card, D. (2001), E*stimating the Return to Schooling: Progress on Some Persistent Econometric Problems*, „Econometrica", No. 69(5).

Carpena, M., Tavares, P., Menezes, C. (2019), *The effect of a six-week focused meditation training on depression and anxiety symptoms in Brazilian university students with 6 and 12 months of follow-up*, „J Affect Disord", No. 246, doi: 10.1016/j.jad.2018.12.126.

Chetty, R. (2020), *How Did COVID-19 and Stabilization Policies Affect Spending and Employment? A New Real-Time Economic Tracker Based on Private Sector Data*, https://opportunityinsights.org/wp-content/uploads/2020/05/tracker_paper.pdf [accessed: 10.02.2021].

Chiswick, B.R. (1988), *Differences in Education and Earnings across Racial and Ethnic Groups: Tastes, Discrimination, and Investments in Child Quality*, „Quarterly Journal of Economics", No. 103(3).

Cloward, R., Ohlin, L. (1960), *Delinquency and Opportunity: criminal gang theory*, Free Press.

Colclough, C., Kingdon, G.G., Patrinos, H.A. (2010), T*he Changing Patterns of Wage Returns to Education and its Implications*, „Development Policy Review", No. 28(6).

Dorn, E., Hancock, B., Sarakatsannis, J., Viruleg, E. (2020), *COVID-19 and Student Learning in the United States: The Hurt Could Last a Lifetime*, https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20and%20Social%20Sector/Our%20Insights/COVID-19%20and%20student%20learning%20in%20the%20United%20States%20The%20hurt%20could%20last%20a%20lifetime/COVID-19-and-student-learning-in-the-United-States-FINAL.pdf [accessed: 10.02.2021].

Dorsey, J. (2020), *COVID-19 Will Define Gen Z And The Next Generation*, shorturl.at/jmnL6, [accessed: 10.02.2021].

DQYDJ (2020), *Income Percentile by Age Calculator for the United States in 2020*, https://dqydj.com/income-percentile-by-age-calculator/ [accessed: 10.02.2021].

Dwyer, T.F. (1973), *Telepsychiatry: psychiatric consultation by interactive television*, „Am J Psychiatry", No. 130(8), doi: 10.1176/ajp.130.8.865.

Ebell, M., O'Higgins, N. (2015), *Fiscal policy and the youth labour market. ILO EMPLOYMENT*, Working Paper, No. 200.

Etheridge, B., Spanting, L. (2020), *The Gender Gap in Mental Well-Being During the COVID-19 Outbreak: Evidence from the UK*, https://ideas.repec.org/p/ese/iserwp/2020-08.html [accessed: 10.02.2021].

Fitzpatrick, B. et al. (2020), *Virtual Illusion: Comparing Student Achievement and Teacher and Classroom Characteristics in Online and Brick-and-Mortar Charter Schools*, „Educational Researcher", No. 49(3), https://doi.org/10.3102/0013189X20909814.

Freeman, R. (1976), *The Overeducated American*, Basic Book, New York.

Goldin, C., Polacheck, S. (1987), *Residual Differences by Sex: Perspectives on the Gender Gap in Earnings*, „American Economic Review", No. 77(2).

Gunderson, M., Oreopoulos, P. (2020), *Returns to Education in Developed Countries*, (In:) Bradley, S., Green, C. (eds), *The Economics of Education: A Comprehensive Overview*, London, Academic Press.

Gustavsson, A. et al. (2011), *Cost of disorders of the brain in Europe 2010*, „European Neuropsychopharmacology", No. 21(10), doi: http://dx.doi.org/10.1016/j.euroneuro.2011.08.008.

Hanushek, E. (2014), *The Economic Relevance of Early Childhood Development*, (In:) Maas, J.F., Ehmig, S.C., Seelmann, C. (eds), *Prepare for Life! Raising Awareness for Early Literacy Education*, Stiftung Lesen, Mainz.

Hanushek, E.A., Woessmann, L. (2020), *The Economic Impacts of Learning Losses*, https://www.oecd.org/education/The-economic-impacts-of-coronavirus-COVID-19-learning--losses.pdf [accessed: 10.02.2021].

Harmon, C., Oosterbeek, H., Walker, I. (2003), *The Returns to Education: Microeconomics*, „Journal of Economic Surveys", No. 17(2).

Hawryluck, L. et al. (2004), *SARS control and psychological effects of quarantine*, „Emerg Infect Dis", No. 10(7), doi: 10.3201/eid1007.030703.

Heckman, J.J., Lochner, L.J., Todd, P.E. (2006), *The Earnings Functions, Rates of Return and Treatment Effects: The Mincer Equation and Beyond*, (In:) Hanushek, E.A., Welch, F. (eds), *Handbook of the Economics of Education*, Vol. 1, North Holland, Amsterdam.

Heitmeyer, W. (1989), *Rechtsextremistische Einstellungen bei Jugendlichen*, 3rd edition. Beltz-Verlag.

Hilton, M. et al (2008), *Mental ill-health and the differential effect of employee type on absenteeism and presenteeism*, „Journal of Occupational and Environmental Medicine", No. 50(11), http://dx.doi.org/10.1097/JOM.0b013e31818c30a8.

Hubley, S. et al. (2016), *Review of key telepsychiatry outcomes*, „World J Psychiatry, No. 22(2), doi: 10.5498/wjp.v6.i2.269.

ILO (2013), *World of Work Report 2013: Repairing the economic and social fabric*, Geneva, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_214476.pdf [accessed: 10.02.2021].

ILO (2020a), *COVID-19: Public employment services and labour market policy responses*, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_753404.pdf [accessed: 10.02.2021].

ILO (2020b), *ILO Monitor: COVID-19 and the world of work*, 3rd ed., https://www.ilo.org/wcmsp5/groups/public/@dgreports/%0A@dcomm/documents/briefingnote/wcms_743146.pdf [accessed: 10.02.2021].

ILO (2020c), *ILO Monitor: COVID-19 and the world of work*, 5th ed., 30 June, https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_749399.pdf [accessed: 10.02.2021].

ILO (2020d), *ILO Monitor: COVID-19 and the world of work*, 6th ed., 23 September, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_755910.pdf [accessed: 10.02.2021].

ILO (2020e), *More than one in six young people out of work due to COVID-19*, https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_745879/lang--n/index.htm [accessed: 10.02.2021].

ILO (2020f), *Preventing exclusion from the labour market: Tackling the COVID-19 youth employment crisis*, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_746031.pdf [accessed: 10.02.2021].

ILO (2021), *ILO Monitor: COVID-19 and the world of work*, 7th ed., https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_767028.pdf [accessed: 10.02.2021].

Jensen, R. (2010), *The (perceived) Returns to Education and the Demand for Schooling*, „Quarterly Journal of Economics", No. 125(2).

de Jesus Mari, J., Oquendo, M.A. (2020), *Mental health consequences of COVID-19: the next global pandemic*, „Trends Psychiatry Psychother", No. 42(3), doi: https://doi.org/10.1590/2237-6089-2020-0081.

King, E., Montenegro, C.E., Orazem, P.F. (2012), *Economic Freedom, Human Rights, and the Returns to Human Capital: An Evaluation of the Schults Hypothesis*, „Journal of Economic Development and Cultural Change", No. 6(1).

Kluve, J. et al (2017), *Interventions to improve the labour market outcomes of youth: systematic review*, „Campbell Systematic Review", No. 12, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_508938.pdf [accessed: 10.02.2021].

Krueger, A. (1993), *How Computers Have Changed the Wage Structure: Evidence from Microdata*, „Quarterly Journal of Economics", No. 108(1).

Kuhfeld, M. et al. (2020), *Projecting the Potential Impacts of COVID-19 School Closures on Academic Achievement*, „EdWorkingPapers".

Lim, G. et al. (2018), *Prevalence of Depression in the Community from 30 Countries between 1994 and 2014*, „Sci Rep", No. 8(2861), doi:10.1038/s41598-018-21243-x.

Lundorff, M. et al. (2017), *Prevalence of prolonged grief disorder in adult bereavement*, „J Affect Disord", No. 212, doi: 10.1016/j.jad.2017.01.030.

McNaab, R., Psacharopoulos, G. (1981), *Racial Earnings Differences in the UK*, „Oxford Economic Papers", No. 33(3).

Mincer, J. (1958), *Investment in Human Capital and Personal Income Distribution*, „Journal of Political Economy", No. 66(4).

Mincer, J. (1974), *Schooling, Experience and Earnings*, Columbia University Press for the National Bureau of Economic Research, New York.

Montenegro, C.E., Patrinos, H.A. (2014), *Comparable Estimates of Returns to Schooling Around the World*, Policy Research Working Paper, No. 7020, http://documents1.worldbank.org/curated/en/830831468147839247/pdf/WPS7020.pdf [accessed: 10.02.2021].

Montenegro, C., Hirn, M. (2009), *A New Disaggregated Set of Labour Market Indicators using Standardized Household Surverys from around the World*, Washington, DC.

O'Higgins, N. (2017), *Rising to the youth employment challenge: Evidence and analysis on key policy issues*, Geneva. Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_556949.pdf [accessed: 10.02.2021].

OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, Paris, State of Health in the EU Cycle, https://doi.org/10.1787/health_glance_eur-2018-en.

OECD (2012), *Sick on the Job?: Myths and Realities about Mental Health and Work*, Paris, http://dx.doi.org/10.1787/9789264124523-en.

OECD (2015), *Fit Mind, Fit Job: From Evidence to Practice in Mental Health and Work*, Paris, http://dx.doi.org/10.1787/9789264228283-en.

OECD (2019), *Employment Outlook*, https://doi.org/10.1787/9ee00155-en.

OECD (2020a), *Education at a Glance 2020*, doi: https://doi.org/10.1787/69096873-en.

OECD (2020b), *Youth and COVID-19: Response, recovery and resilience*, OECD Policy Responses to Coronavirus (COVID-19), https://www.oecd.org/coronavirus/policy-responses/youth-and-COVID-19-response-recovery-and-resilience-c40e61c6/ [accessed: 10.02.2021].

Oreopoulos, P., Salvanes, K.G. (2011), *Priceless: The Nonpecuniary Benefits of Schooling*, „Journal of Economic Perspectives", No. 25(1).

Patel, J. (2020), *Generation Corona will miss out on life's opportunities. New creative spaces can help*, Euronews, https://www.euronews.com/2020/04/03/generation-corona-will-miss-out-on-life-s-opportunities-new-creative-spaces-can-help-view [accessed: 10.02.2021].

Pew Research Center (2015), *The Whys and Hows of Generations Research*, shorturl.at/ehquQ [accessed: 10.02.2021].

Pfefferbaum, B., North, C.S. (2020), *Mental Health and the COVID-19 Pandemic*, „N Engl J Med.", No. 383, doi: 10.1056/NEJMp2008017.

Psacharopoulos, G. (1972), *Rates of Return on Investment in Education around the World*, „Comparative Education", No. 16(1).

Psacharopoulos, G. (1973), *Returns to Education: An International Comparison*, Elsevier and Jossey-Bass, Amsterdam, San Francisco.

Psacharopoulos, G. (1985), *Returns to Education: A Further International Update and Implications*, „Journal of Human Resources", No. 20(4).

Psacharopoulos, G. (1989), *Time Trends of the Returns to Education: Cross-National Evidence*, „Economics of Education Review", No. 8(3).

Psacharopoulos, G. (1994), *Returns to Education: A Global Update*, „World Development", No. 22(9).

Psacharopoulos, G. (1995), *The Profitability of Investment in Education: Concepts and Methods*, World Bank, Human Capital Development and Operations Policy, Working Papers, No. 63.

Psacharopoulos, G. et al. (2020), *Lost Wages: The COVID-19 Cost of School Closures*, „IZA Discussion Paper", No. 13641, http://ftp.iza.org/dp13641.pdf [accessed: 10.02.2021].

Psacharopoulos, G., Layard, R. (2012), *Rates of Return to Investment in Education: An International Comparison*, Washington, DC.

Psacharopoulos, G., Mattson, R. (1998), *Estimating the Returns to Education: A Sensitivity Analysis of Concepts and Methods*, „Journal of Educational Planning and Administration", No. 12(3).

Psacharopoulos, G., Patrinos, H.A. (2004), *Returns to Investment in Education: A Further Update*, „Education Economics", No. 12(2).

Psacharopoulos, G., Patrinos, H.A. (2018), *Returns to Investment in Education A Decennial Review of the Global Literature*, Policy Research Working Paper, No. 8402.

Putnam, R. (2000), *Bowling Alone*, Simon and Schuster Paperbacks.

Reger, M., Stanley, I., Joiner, T. (2020), *Suicide Mortality and Coronavirus Disease 2019-A Perfect Storm?*, „JAMA Psychiatry", doi: 10.1001/jamapsychiatry.2020.1060.

Robbins, R. (2020), *Coronavirus pandemic sets up potential breakout moment for virtual mental health care*, https://www.statnews.com/2020/04/13/remote-mental-health--livongo-omada/ [accessed: 10.02.2021].

Saeed, S., Antonacci, D., Bloch, R. (2010), *Exercise, yoga, and meditation for depressive and anxiety disorders*, „Am Fam Physician", No. 81.

Saeed, S., Cunningham, K., Bloch, R. (2019), *Depression and anxiety disorders: Benefits of exercise, yoga, and meditation*, „Am Fam Physician", No. 99.

Sani, G. et al. (2020), *Mental health during and after the COVID-19 emergency in Italy*, „Psychiatry Clin Neurosci", No. 74(327), doi:10.1111/pcn.13004.

Schultz, T. (1961), *Investment in Human Capital*, „American Economic Review", No. 51(1).

Simon, N.M., Saxe, G.N., Marmar, C.R. (2020), *Mental Health Disorders Related to COVID-19–Related Deaths*, „JAMA Psychiatry", No. 324(15), doi:10.1001/jama.2020.19632.

Taquet, M. et al. (2020), *Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62,354 COVID-19 cases in the USA*, „The Lancet Psychiatry", https://doi.org/10.1016/S2215-0366(20)30462-4.

Tcherneva, P. (2018), *The Job Guarantee: Design, Jobs, and Implementation*, Levy Economics Institute of Bard College Working Paper, No. 902.

Trautmann, S., Rehm, J., Wittchen, H.-U. (2016), *The economic costs of mental disorders. Do our societies react appropriately to the burden of mental disorders?*, „EMBO Rep.", No. 17.

UN (2020), *Policy Brief: The Impact of COVID-19 on children*, https://un.org.au/files/2020/04/Policy-Brief-on-COVID-impact-on-Children-16-April-2020.pdf [accessed: 10.02.2021].

UNESCO (2017a), *Literacy Rates Continue to Rise from One Generation to the Next*, http://uis.unesco.org/sites/default/files/documents/fs45-literacy-rates-continue-rise--generation-to-next-en-2017_0.pdf [accessed: 10.02.2021].

UNESCO (2017b), *More Than One-Half of Children and Adolescents Are Not Learning Worldwide*, http://uis.unesco.org/sites/default/files/documents/fs46-more-than-half-children-not-learning-en-2017.pdf [accessed: 10.02.2021].

UNESCO (2019), *Combining Data on Out-of-school Children, Completion and Learning to Offer a More Comprehensive View on SDG 4*, http://uis.unesco.org/sites/default/files/ /documents/ip61-combining-data-out-of-school-children-completion-learning-offer-more--comprehensive-view-sdg4.pdf [accessed: 10.02.2021].

UNESCO (2020a), *COVID-19: Impact on Education*, https://reliefweb.int/report/world/global--analysis-covid-19-impact-education-thematic-series-education-november-2020 [accessed: 10.02.2021].

UNESCO (2020b), *Global tracking of COVID-19 caused school closures and re-openings*, https://en.unesco.org/sites/default/files/unesco-map-COVID-19-caused--school-closures--and-reopening-methodological-note-en.pdf [accessed: 10.02.2021].

UNESCO (2020c), *Policy Brief: Education during COVID-19 and beyond*, https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_COVID-19_and_education_august_2020.pdf [accessed: 10.02.2021].

UNESCO (2020d), *The impact of COVID-19 on the cost of achieving SDG 4*, GEM Report, Policy Paper, No. 42.

Verdery, A. et al. (2020), *Tracking the reach of COVID-19 kin loss with a bereavement multiplier applied to the United States*, „Proc Natl Acad Sci USA", No. 117(30), doi: 10.1073/pnas.2007476117.

von Wachter, T. (2020), *The Persistent Effects of Initial Labour Market Conditions for Young Adults and Their Sources*, „Journal of Economic Perspectives", No. 34(4), https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.34.4.168 [accessed: 10.02.2021].

Well Being Trust & The Robert Graham Center (2020), *The COVID Pandemic Could Lead to 75,000 Additional Deaths from Alcohol and Drug Misuse and Suicide*, https://wellbeingtrust.org/areas--of-focus/policy-and-advocacy/reports/projected-deaths--of-despair-during-COVID-19/ [accessed: 10.02.2021].

WHO (2020a), *COVID-19 disrupting mental health services in most countries, WHO survey*, https://www.who.int/news/item/05-10-2020-COVID-19-disrupting-mental-health-services--in-most-countries-who-survey [accessed: 10.02.2021].

WHO (2020b), *ICD-11 for mortality and morbidity statistics*, https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1183832314 [accessed: 03.12.2020].

WHO (2020c), *World Mental Health Day: an opportunity to kick-start a massive scale-up in investment in mental health*, Geneve, https://www.who.int/news/item/27-08-2020-world-mental-health-day-an-opportunity-to-kick-start-a-massive-scale--up-in-investment-in-mental-health [accessed: 10.02.2021].

Woessmann, L., Freundl, V., Grewenig, E. et al. (2020), *Bildung in der Coronakrise: Wie haben die Schulkinder die Zeit der Schulschliesungen verbracht, und welche Bildungsmasnahmen befurworten die Deutschen?*, „ifo Schnelldienst", No. 73(9), https://www.ifo.de/publikationen/2020/aufsatz-zeitschrift/bildung-der-coronakrise-wie-haben-die-schulkinder--die-zeit [accessed: 10.02.2021].

World Bank (2012), *World Development Report 2013: Jobs*, Washington, DC.

World Bank (2014), *International Income Distribution Database (I2D2)*, Washington, DC.

Zhang, J. et al. (2020), *Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: a model of West China Hospital*, „Precis Clin Med.", No. 3, doi:10.1093/pcmedi/pbaa006.

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