

Is this time *really* different? How the impact of the COVID-19 crisis on labour markets contrasts with that of the global financial crisis of 2008–09

Sher VERICK,* Dorothea SCHMIDT-KLAU** and Sangheon LEE***

Abstract. *The COVID-19 pandemic resulted in a more severe labour market crisis in 2020 than that witnessed during the 2009 global financial crisis. As a consequence of lockdown measures, which have been the main cause of damage to labour markets, the deepest impacts in 2020 have been found in middle-income economies, while certain sectors, such as accommodation and food services, and groups, especially young women, have proved to be particularly vulnerable. Contrary to adjustment processes during the global financial crisis, the COVID-19 crisis has resulted in a greater rise in inactivity than in unemployment. Policy support needs to be maintained to avoid an unequal recovery.*

Keywords: *COVID-19 crisis, global financial crisis, unemployment, employment, developing countries, labour market analysis.*

1. Introduction: A tale of two crises

Following the failure of Lehman Brothers in 2008 and the ensuing credit crunch, a financial crisis in the United States became one of global dimensions, shifting to the real economy and sending out shockwaves that reverberated around the world. The global financial crisis of 2009 marked the first year that the world economy had contracted since the Second World War, a sharp correction to the boom years of 2002–07. Global trade fell by 11 per cent in that year (Baldwin 2009), far more than the decline in output. Overall, the production, trade and

* Head, Employment Strategies Unit, Employment Policy Department, International Labour Office, Geneva, email: verick@ilo.org (corresponding author). ** Head, Department Management and Coordination Unit, Employment Policy Department, International Labour Office, Geneva, email: schmidt@ilo.org. *** Director, Employment Policy Department, International Labour Office, Geneva, email: lees@ilo.org. The authors acknowledge comments provided by Mauricio Dierckxsens of the ILO and two anonymous referees.

Responsibility for opinions expressed in signed articles rests solely with their authors, and publication does not constitute an endorsement by the ILO.

This article is also available in French, in *Revue internationale du Travail* 161(1), and Spanish, in *Revista Internacional del Trabajo* 141(1).

Copyright © International Labour Organization 2022

Journal compilation © International Labour Organization 2022

consumption of goods, especially manufacturing goods, declined more than services during the crisis. As a result of the bursting of housing bubbles and the credit crunch, the construction sector was also badly hit, which led to large job losses, especially among low-skilled and young workers.

The global financial crisis was precipitated not only by the build-up of risk-taking (namely, sub-prime lending in the United States and its subsequent repackaging in collateralized debt obligations masquerading as low-risk and high-quality assets) but also by lax financial regulation, loose monetary policy and the collapse of real estate bubbles in a number of countries (such as Ireland, Spain and the United States), among other factors.¹ The years leading up to the crisis were also characterized by rising inequality in many countries, which was further exacerbated by gaps in governance and policy frameworks, making economies and labour markets vulnerable to such a crisis (see, for example, Chowdhury and Žuk 2018). Though financial distress was already evident in the United States in 2007, few economists predicted that it would result in a global downturn and most commentators expected the golden years of the 2000s – a period of synchronized economic growth across a majority of countries – to continue.²

Policymakers responded to the global financial crisis by relying on a range of countercyclical macroeconomic tools, including interest rate cuts to encourage borrowing and investment, bailouts and injections of money into the financial system to address the credit crunch, and fiscal stimulus packages to support aggregate demand (Verick and Islam 2010). The Organisation for Economic Co-operation and Development (OECD) estimates that the fiscal support announced during 2008–10 represented around 3.5 per cent of 2008 gross domestic product (GDP) in advanced economies with available data (OECD 2009). Stimulus in the G20 group of countries amounted to around US\$692 billion in 2009 or approximately 1.4 per cent of their combined GDP (Prasad and Sorkin 2009). In terms of policy support in the wake of the crisis, debates on the size of fiscal multipliers and the relative effects of fiscal consolidation dominated the discourse, particularly in the context of the European sovereign debt crisis (see, for example, Gornicka et al. 2020). The notion of “expansionary fiscal consolidation” was seen as a justification for austerity but has since been widely criticized (Chowdhury and Islam 2012).

Despite the moniker “global”, the crisis had different implications for economies and labour markets around the world. In fact, in 2009 it had a greater impact on advanced economies, which experienced a decline in GDP of 3.3 per cent, compared with growth of 2.8 per cent in emerging market economies and developing countries (though these aggregate figures mask considerable

¹ For an overview of the labour market implications of the global financial crisis, see, for example, Verick and Islam (2010).

² Some had, however, warned of a possible crisis stemming from the risks linked to the sub-prime housing market and global imbalances that had grown over the years preceding 2008 (see, for example, UN 2006).

variation within these groupings).^{3,4} Developing countries (as opposed to emerging market economies) did suffer a growth slowdown in 2009, but still managed to register a relatively robust growth rate of 5.1 per cent on average,⁵ indicating that these economies were not as well integrated into the global economy and were, therefore, less affected by trade and credit shocks. Emerging economies, especially China and India, returned to strong economic growth in 2010, which generated strong demand for commodities around the world that, in turn, benefited exporters, especially developing countries, over the following years.

Although the global unemployment rate did decline slowly over the years following the global financial crisis, it did not return to its pre-crisis low of 5.3 per cent within the decade. For youth, the situation was even more devastating: the global youth unemployment rate continued to rise after the crisis, reaching a peak of 13.8 per cent in 2016 (14.1 per cent for young men). In 2019, the youth unemployment rate still stood at 13.6 per cent, around 1.3 percentage points higher than the rate in 2008, reflecting the long-lasting damage inflicted on labour markets, especially for young people. Though a lag in the labour market is consistent with previous financial crises (Reinhart and Rogoff 2009), poor policy choices, namely the adoption of premature austerity measures in a number of advanced economies (for instance, in the European Union (EU)), slowed the recovery (see, for example, House, Proebsting and Tesar 2020). Overall, output losses persisted following the crisis, while investment and total factor productivity remained below pre-crisis levels in a number of economies (Chen, Mrkaic and Naber 2019).

In contrast to the global financial crisis, the COVID-19 crisis constitutes a very different shock in terms of its origin, transmission channels and impact. Although there were concerns prior to 2020 of a global pandemic, influenced by the experiences of the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS) outbreaks, the COVID-19 pandemic was, nonetheless, unexpected and not explicitly linked to any other warning signs (economic or otherwise). Starting as a global health emergency in early 2020, the COVID-19 crisis evolved into a severe economic and labour market shock over the year, though this evolution was complex and uncertain owing to the changing nature of the pandemic.

The economic impact of the crisis around the world has been driven mostly by the lockdowns and other containment measures that have been necessary to control the spread of the pandemic. Since March 2020, the vast majority of

³ In this article, different terms are used to describe country groupings. The groupings “low income”, “middle income” and “high income” are used by the World Bank, whereas the International Monetary Fund (IMF) uses the groupings “advanced economies” (equivalent to high-income countries), “emerging market economies” and “low-income developing countries”. According to the World Bank classifications, the cut-offs for countries by income level are: low income: < US\$1,036; lower-middle income: US\$1,036 – US\$4,045; upper-middle income: US\$4,046 – US\$12,535; high income: > US\$12,535 (GNI per capita in current US\$, using the Atlas method exchange rates).

⁴ IMF, “World Economic Outlook Database”. <https://www.imf.org/en/Publications/WEO/weo-database/2021/April> (accessed April 2021).

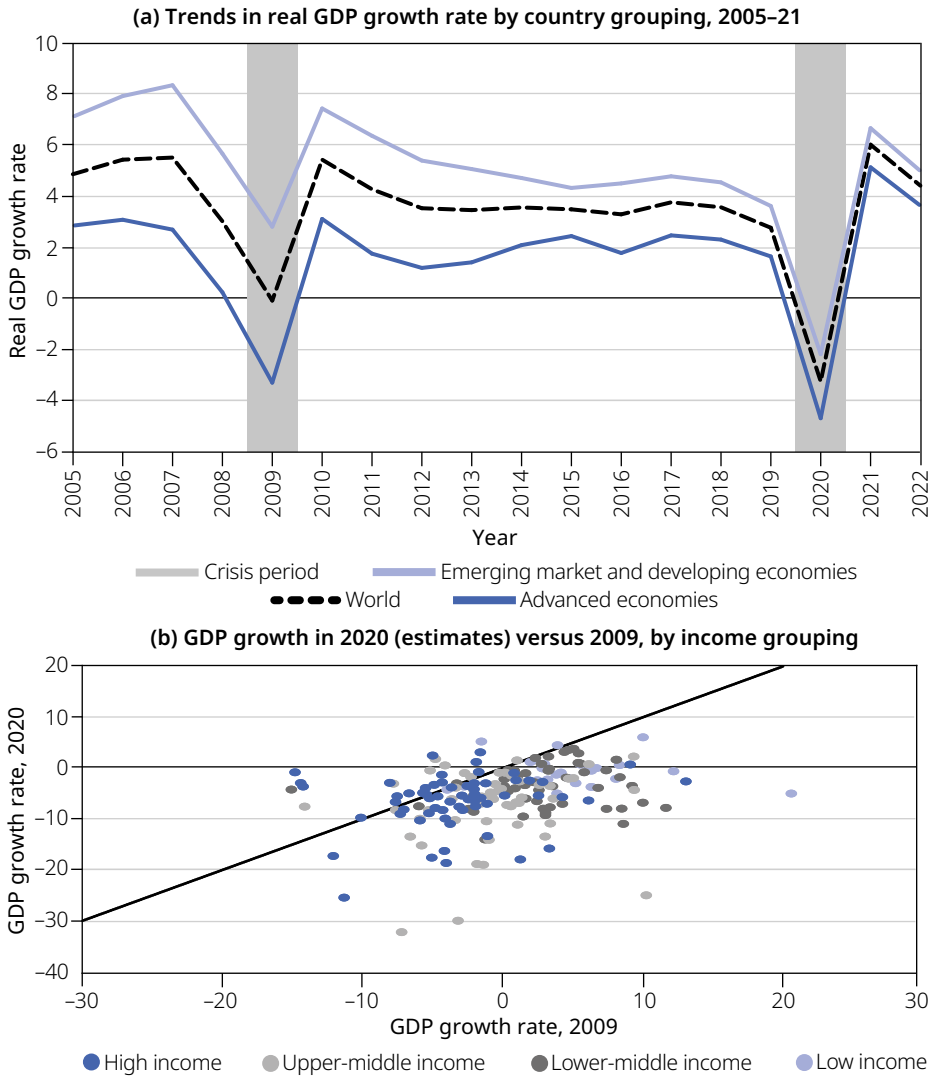
⁵ World Bank, “World Development Indicators”, DataBank. <https://databank.worldbank.org/source/world-development-indicators> (accessed April 2021).

workers have been affected by workplace closures, though this has varied across both countries and time. At the end of August 2020, the share of workers residing in countries with workplace closures stood at 94 per cent (ILO 2020a). In spite of some relief in the middle of the year, many economies had to reinstate measures in the last quarter of 2020 as the number of cases increased again, especially in the northern hemisphere (with the onset of winter and the emergence of a second wave of infections). In January 2021, 93 per cent of workers were still affected by some form of workplace closure, though the measures were becoming more geographically targeted and sector specific (ILO 2021a). Border closures and restrictions on travel brought global (and, in many cases, domestic) tourism to a halt in 2020. According to the World Tourism Organization, international arrivals fell by 72 per cent in the first ten months of the year (UNWTO 2020), which severely affected tourism-dependent economies. These lockdowns and other containment measures subsequently precipitated a sharp decline in both the demand for (consumption and investment) and supply of goods and services over 2020, especially in the second quarter. The supply shock was driven by the lockdown and containment measures, which prevented businesses from operating, particularly in industries that require face-to-face interaction with customers (for example, retail, accommodation and food services). This led to a decline in demand for goods and services produced by other sectors (through forward and backward linkages). Disruptions to global supply chains also affected supply in a number of sectors, though production and trade in goods managed to rebound in late 2020 and during the first half of 2021. On the demand side of the economy, containment measures significantly curtailed consumption of many goods and services, especially in restaurants, places of recreation, retail outlets and the like. The demand shock was amplified by job and income losses, which further dampened consumption. Lastly, a high level of uncertainty is predicted to have had a further negative effect on consumption and investment decisions (see, for example, Altig et al. 2020; Baker et al. 2020).

Thus, even in countries with a lower number of COVID-19 cases, an economic and jobs crisis ensued in 2020 because of the closure of borders, workplaces, places of retail and leisure, and other interventions that severely curtailed economic activity. As a result, the effect of the COVID-19 crisis on output was severe and rapid in the vast majority of countries, with the steepest decline in output and working hours occurring in the second quarter of 2020. The latest IMF estimates indicate a global decline in economic output of 3.3 per cent in 2020 (though revised upwards from the estimates released earlier in 2020), with an estimated growth rate of -4.8 per cent in advanced economies and -2.2 per cent in emerging market and developing countries (figure 1(a)).

This outcome stands in contrast to the global financial crisis, which did lead to a world recession (-0.1 per cent GDP growth rate in 2009) but did not result in negative economic growth in most low- and middle-income countries. Overall, GDP growth was negative in 2009 in 92 countries or 47.9 per cent of the sample available for that year (figure 1(b)). In comparison, the 2020 GDP growth rate is estimated to be negative in 164 countries or 85.4 per cent of the sample. Only a handful of countries grew faster (or, rather, less negatively) in 2020 than they

Figure 1. Real GDP growth rates from 2005 to 2021 (percentages)



Sources: IMF, World Economic Outlook Database (accessed April 2021) and the World Bank's income classifications.

did in 2009, as illustrated by the number of observations in figure 1(b) that are to the left of the 45-degree line.

This illustrates that, for low- and middle-income countries, the decline in output in 2020 was far worse than that witnessed in 2009, when output was even quite robust in some countries (with GDP growth rates of 5–10 per cent). These economies are now experiencing their first decline in output for many decades, which will have negative implications for poverty, cancelling out some of the gains made in recent years. In 2020, only a few developing and emerging economies are estimated to have grown. This includes China, which registered a GDP growth rate of 1.9 per cent.

In general, jobs and livelihoods are always vulnerable during such downturns, especially in the case of youth; a trend confirmed by both the global financial crisis and the COVID-19 crisis, along with other crises (such as the 1997 Asian Financial Crisis). However, there have been marked differences in the COVID-19 crisis due to the specific nature of the shock, as outlined above. A key distinguishing feature of the current downturn is that, due to the impact of lockdowns and other containment measures, the service sector has suffered much more than it did during the global financial crisis, which was characterized by greater losses in manufacturing (and, to some extent, in construction). This sectoral aspect has meant that young people and women, who are over-represented in the service sector, have generally been more vulnerable to the employment impact of the COVID-19 crisis. This contrasts with the initial gender effects of the global financial crisis on the labour market. In addition, the much more widespread economic shock to low- and middle-income countries has translated into considerable losses in their labour markets in 2020, which was not the case in 2009.

In response to the impact of the COVID-19 crisis, policymakers, including in emerging and developing economies, have adopted often unprecedented monetary and fiscal policy interventions that seek to stop economies from collapsing. While the use of macroeconomic tools in response to the COVID-19 crisis has built on the experiences of the global financial crisis, the approach to stimulus has been less constrained by concerns that were evident in 2009 and 2010, though the limits of such policies are being tested (for example, the zero lower bound for interest rates in advanced economies and fiscal space in developing countries). This time around there has been less concern regarding debt levels, at least in advanced economies where borrowing is supported by historically low interest rates that are expected to continue for some time to come. Significant resources have been allocated to job retention schemes in 2020, exceeding the allocations in 2009, which have kept millions of workers in jobs, including through new and innovative schemes outside advanced economies. Social protection schemes have been extended in duration and coverage, including, in some cases, the self-employed, platform workers and others not typically covered by existing measures.

Fiscal policy measures amounted to around US\$16 trillion (as at 17 March 2021), representing around 18 per cent of global GDP for 2019,⁶ which has been distributed across additional spending and foregone revenue (US\$10 trillion) and government loans, guarantees and capital injections (US\$6 trillion). However, this spending has not been evenly distributed. The bulk of it has benefited advanced economies, which accounted for more than US\$9.02 trillion of the additional spending and foregone revenue, along with almost all of the government loans, guarantees and capital injections. As a percentage of GDP, fiscal support in advanced economies (additional spending and foregone revenue only) represented 16.4 per cent of 2020 GDP, compared with just 4.2 per cent in emerging markets and 1.7 per cent in low-income developing countries. This disparity in

⁶ IMF, "World Economic Outlook Database". <https://www.imf.org/en/Publications/WEO/weo-database/2021/April> (accessed April 2021). The figures on fiscal spending are sourced from IMF (2021).

policy support has not only impacted the ability of countries to respond to the immediate phase of the crisis (that is, dealing with the health dimensions while preventing the economy from collapsing) but has also limited their capacity to steer themselves towards recovery.

Against this backdrop, this article analyses the labour market impact of the COVID-19 crisis, based on available models and labour force survey data, with a particular focus on changes to employment, including changes by sector, gender and age. Where possible, global (modelled estimates) and country-level data (from labour surveys) for 2020 are compared with estimates for 2009 to illustrate both the similarities and the differences between the global financial crisis and the COVID-19 crisis.

The remainder of this article is structured as follows. The second section provides an overview of the aggregate labour market impacts of the global financial crisis and the COVID-19 crisis drawing on cross-country analysis, while the third section turns to potential explanations for the variation in the decline in employment across countries. The fourth section highlights the fact that most of the decline in employment during the COVID-19 crisis has translated into rising inactivity. The fifth and sixth sections investigate what has happened within labour markets by focusing on sectoral impact, along with differences by age and sex. The seventh section summarizes our findings and outlines various policy recommendations.

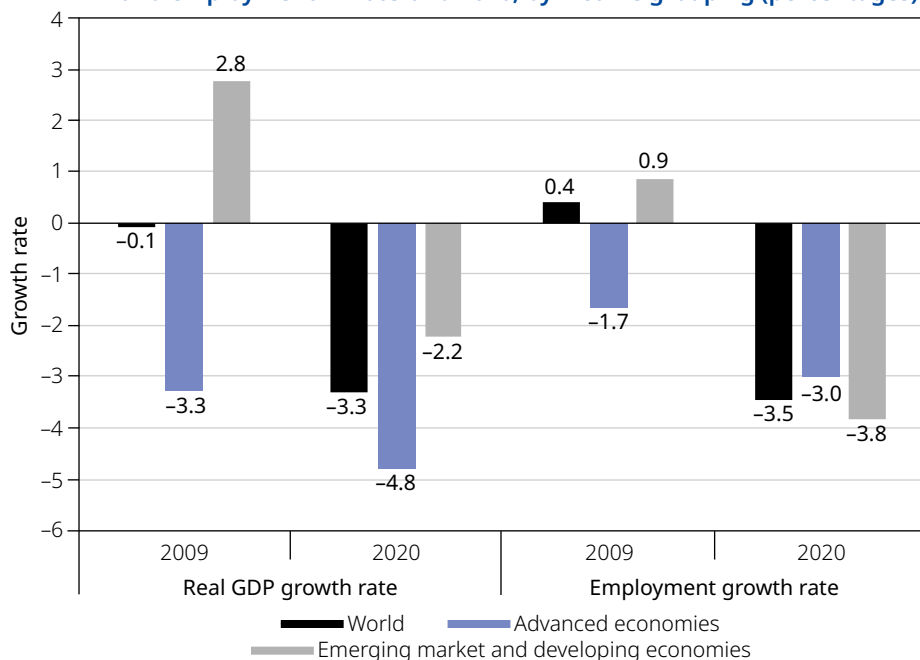
2. The aggregate labour market impacts of the global financial crisis and the COVID-19 crisis

An economic shock will lead to an adjustment of labour demand through both internal and external channels, including through reductions in hours worked, numbers of workers, wages and non-wage benefits. The adjustment in the labour market will, ultimately, depend not only on the nature of the shock, but also on the effects of policies and institutions. Examples of the latter are job retention schemes (including subsidies), which have played an important role in both crises in keeping workers in jobs, and employment protection legislation (EPL), which regulates how employers can adjust employment.

Due to the unique nature of the COVID-19 crisis and the suspension of economic activity during lockdowns, working-hour losses have been an important summary indicator of the overall labour market impact of the pandemic, capturing both the internal adjustment that happens during a crisis (in other words, the reduction in working hours for those who remain employed) and the employment losses that result from the shock. ILO estimates released on 25 January 2021 (ILO 2021a) show that global working-hour losses in 2020 reached 8.8 per cent (compared with the fourth quarter of 2019), equivalent to 255 million full-time jobs (assuming a 48-hour working week). They were highest in Latin America and the Caribbean, Southern Europe and Southern Asia. Overall, the reduction in working hours in 2020 was around four times greater than during the global financial crisis.

In terms of employment losses, ILO estimates indicate that global employment declined by 114 million in 2020 or by 3.5 per cent (figure 2), which

Figure 2. How different are the crises? A comparison of changes in output and employment in 2009 and 2020, by income grouping (percentages)



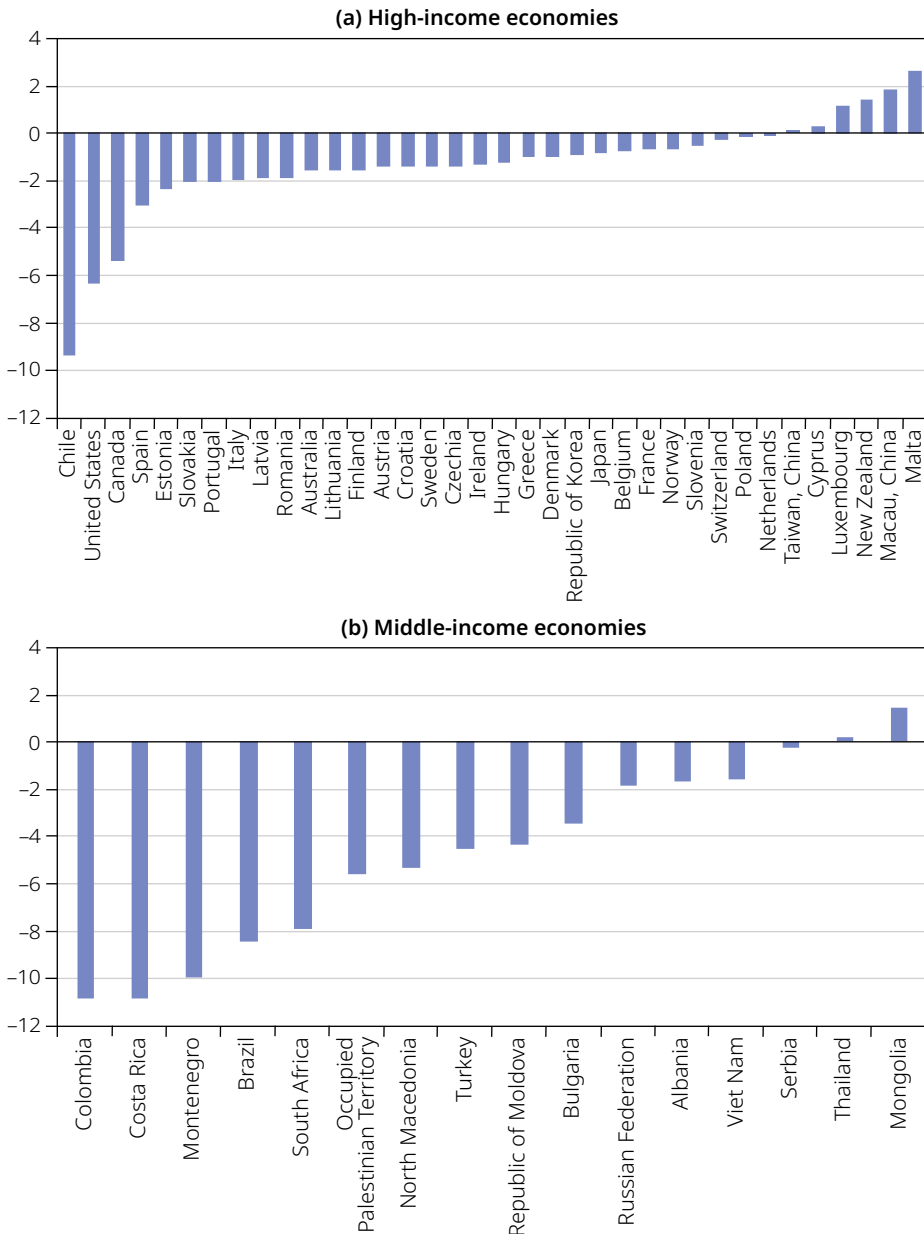
Sources: Real GDP growth rate (on previous year) – IMF, World Economic Outlook Database, April 2021 update; employment – authors' calculations based on ILO modelled estimates, ILOSTAT (accessed 14 June 2021).

contrasts with the overall increase in global employment in 2009 (+0.4 per cent). The decline in employment in 2020 was much more notable in low- and middle-income countries, which had a growth rate of –3.8 per cent compared with their positive employment growth rate in 2009 (+0.9 per cent). Employment in advanced economies declined during both the global financial crisis and the COVID-19 crisis, but the drop in 2020 (–3.0 per cent) was significantly greater than in 2009 (–1.7 per cent). The falls in employment in 2020 are largely in line with the declines in economic output, apart from the case of emerging and developing economies where the change in employment in 2020 is greater than for output (–3.8 per cent versus –2.2 per cent).

Looking at a sample of countries with annual data for 2020, employment fell in all high-income economies (typically between 0 and –2 per cent) apart from Cyprus, Luxembourg, New Zealand, Macau (China) and Malta (figure 3(a)). In advanced economies, the largest falls were witnessed in Chile, the United States and Canada, which are characterized by more flexible labour markets (see also below for a discussion of the effect of EPL on labour market adjustment). In general, the decline in employment was much more substantial in middle-income economies, especially in Latin America, along with Montenegro and South Africa, where employment fell by around 8 per cent or more (figure 3(b)).

The decline in employment in 2020 was more pronounced in middle-income economies characterized by higher levels of inequality. In fact, there is a strong

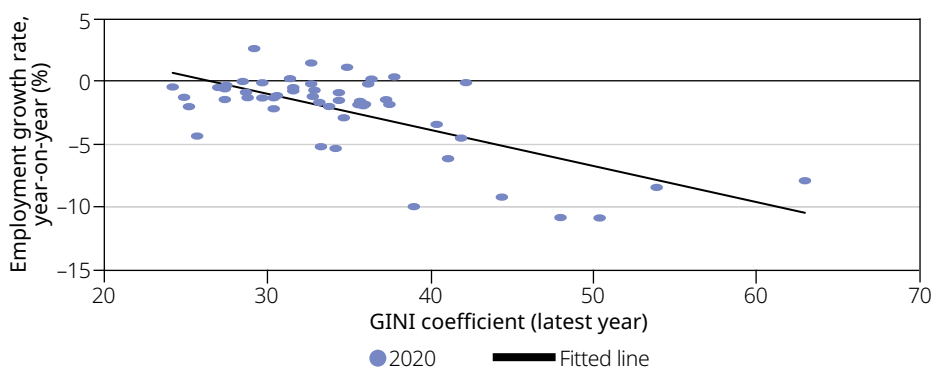
Figure 3. Year-on-year employment growth rates during the COVID-19 crisis, 2020 (percentages)



Source: Authors' calculations based on ILOSTAT data (accessed 16 June 2021).

negative relationship between employment growth and inequality, as measured by the Gini coefficient (figure 4). While this correlation masks complex interactions between economic, health and employment outcomes, it suggests that the COVID-19 crisis is likely to exacerbate pre-crisis inequalities.

Figure 4. Relationship between employment growth rate and inequality during the COVID-19 crisis



Sources: Gini coefficient – World Bank, World Development Indicators database; employment – authors' calculations based on labour force surveys, ILOSTAT database (accessed 17 June 2021).

Although up-to-date and representative labour force data are, in general, not available for low-income countries, ad hoc surveys and studies have shown that these vulnerable economies have also suffered from lockdown and containment measures. In particular, the impact of the crisis has been detrimental more broadly for incomes and livelihoods in developing countries (both low- and middle-income) and not just employment status. For example, based on a telephone survey of selected countries carried out from April to May 2020, Bundervoet, Dávalos and Garcia (2021) find that 67.5 per cent of households in low-income countries have experienced a decrease in total income. The ILO's estimates indicate that an additional 108 million workers have become extremely or moderately poor (living on less than US\$3.20 per day in purchasing power parity terms) (ILO 2021b). This has erased five years of progress in reducing working poverty rates (in other words, the rate has returned to the level witnessed in 2015).

3. Explaining the decline in employment during the COVID-19 crisis and how this differs from the global financial crisis

In 2009, employment losses were driven by a demand shock and subsequent decline in output, which had been precipitated by a financial crisis and ensuing credit crunch. Under very different circumstances, the economic aspects of the COVID-19 crisis have been caused by a parallel demand- and supply-side shock, which hit economies and labour markets hard, especially as a result of the lockdown and other containment measures that severely curtailed economic activity. This section investigates how much the lockdown and other containment measures explain the decline in employment evident in the second quarter of 2020 (which constitutes the largest sample available to date), alongside other potential explanatory variables for which data are available.

In the context of other crises, the standard approach to understanding how the labour market adjusts in response to an economic shock would be to look at

adjustment over the business cycle. As an input in the production of goods and services, labour demand will shift over the business cycle in line with economic conditions, declining during a recession that has been precipitated, for example, by a financial crisis, and increasing in the recovery phase. Okun's law, which describes the negative correlation between GDP growth and unemployment, is the best-known empirical approach to analysing this relationship.⁷ To the extent that policies (such as the use of fiscal stimulus packages) affect output, these interventions will also have implications for the adjustment of employment.

As noted above, labour demand is also affected by labour market institutions and policies that determine how output losses and gains affect the quantity and quality of employment. Labour laws, such as EPL, that determine how and when workers can be fired, are one such institution that can affect the speed of adjustment in response to an economic shock (Cazes, Verick and Al Hussami 2013). Moreover, in the case of mass layoffs, which occur during economic recessions, enterprises are often required to notify the local labour department/employment services. In addition to EPL, other labour market policies can have an impact on decisions taken in an enterprise, most notably in how they affect access to short-time work schemes and wage subsidies, which were used extensively during the global financial crisis and even more so during the COVID-19 crisis.

Using the sample of countries with annual data for 2020, it is possible to explore correlations between a number of explanatory variables and the employment growth rate (table 1). The first regression on the real GDP growth rate shows, as expected, a positive and statistically significant relationship with the employment growth rate in 2020 (column (1), table 1). The coefficient estimates indicate that a decline of 10 percentage points in real GDP in 2020 is associated, on average, with a 2.8 per cent decline in employment. However, this positive correlation becomes statistically insignificant once the average Oxford Stringency Index (over 2020) is included as an explanatory variable (columns (2) and (3), table 1). The Oxford Stringency Index is a composite measure based on nine response indicators including school closures, workplace closures and travel bans, rescaled to a value from 0 to 100 (100 = strictest), and it therefore captures the overall impact of lockdown and other containment measures.⁸ The weakening of the relationship between employment and real GDP growth is not surprising since the strictness of the lockdown measures was a key determinant of the GDP growth rate in 2020 in the first place. Overall, there is a strong and negative relationship between the decline in employment in 2020 and the average stringency of lockdowns (see also figure 5).

In terms of other explanatory variables, there is no evidence in this sample of a statistical relationship between employment growth in 2020 and fiscal support (above-the-line items – additional spending and foregone revenue) (column (4), table 1). This contrasts with an analysis presented by the ILO in September 2020, which indicated a positive and statistically significant relationship between lower working-hour losses and fiscal stimulus (ILO 2020a). However,

⁷ For further discussion on Okun's law, including in the context of the global financial crisis, see, for example, Lee et al. (2020) and Cazes, Verick and Al Hussami (2013).

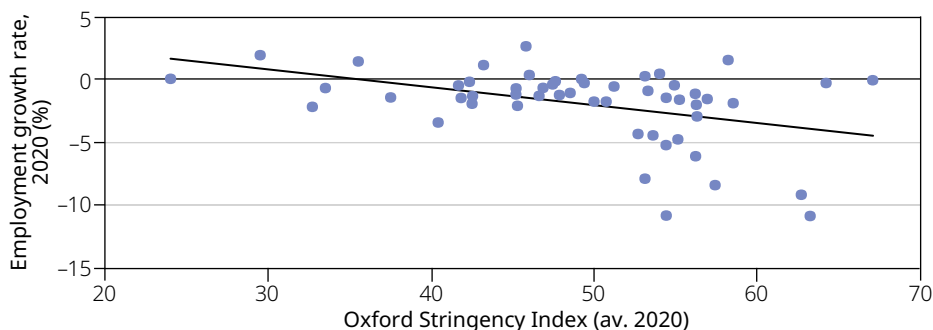
⁸ See <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker>.

Table 1. Regression of employment growth rates (2020) on different explanatory variables

Explanatory variables	(1)	(2)	(3)	(4)	(5)
Real GDP growth rate (2020) (%)	0.279** (2.24)		0.05 (0.38)		
Oxford Stringency Index (2020 average)		-0.142** (-4.60)	-0.131** (-2.66)		
Fiscal support (% of GDP)				0.003 (0.03)	
Employment protection legislation					1.107* (1.76)
Constant	-1.039 (-1.51)	4.968** (2.21)	4.640* (1.97)	-2.330** (-2.99)	-4.853** (-3.29)
Observations	54	53	52	53	44
R ²	0.088	0.168	0.152	0.000	0.069

Notes: * and ** indicate statistical significance at the 10 and 5 per cent levels, respectively. Standard errors appear in parentheses.

Sources: Employment growth rate – authors' calculations based on ILOSTAT data; real GDP growth rate (over previous year) – Economist Intelligence Unit; fiscal stimulus: additional spending and foregone revenue (% of GDP) – IMF Fiscal Monitor, April 2021; individual and collective dismissals (regular contracts) – OECD Strictness of employment protection index; Oxford Stringency Index – Hale et al. (2021).

Figure 5. Relationship between employment growth rate and the average stringency of lockdowns and other containment measures in 2020

Notes: The sample consists of 54 high- and middle-income economies. Under the Oxford COVID-19 Government Response Stringency Index any variation at the subnational level is shown as the response level of the strictest sub-region. The average index value for 2020 is used. Employment growth rate is the percentage change in the employment level from 2019 to 2020.

Sources: Oxford Stringency Index, 2020 – Hale et al. (2021); employment growth rate – ILOSTAT (accessed 17 June 2021).

care is needed when interpreting such relationships since the effectiveness of policy support will need to be evaluated not only on the basis of data for 2020 but also for 2021 and beyond. For this reason, more research on this topic is needed, including at the country level, to identify the impact of such policies.

At the same time, there is a positive correlation (though only statistically significant at the 10 per cent level) between the employment growth rate and the strictness of the EPL as measured by the OECD index of EPL covering individual and collective dismissals (regular contracts). In line with previous crises,

this correlation implies that employment adjustment is more rapid (and negative) in countries with weaker EPL, that is, where it is easier to fire workers. EPL smooths adjustment over the business cycle – protections lead not only to smaller reductions in employment following a negative shock but also to lower employment growth during the recovery. Moreover, as discussed in Lee et al. (2020) and in Cazes, Verick and Al Hussami (2013), there is empirical evidence that adjustment is asymmetric insofar as, owing to labour market institutions (that is, EPL), reductions in employment during downturns are smaller than employment growth during recoveries.

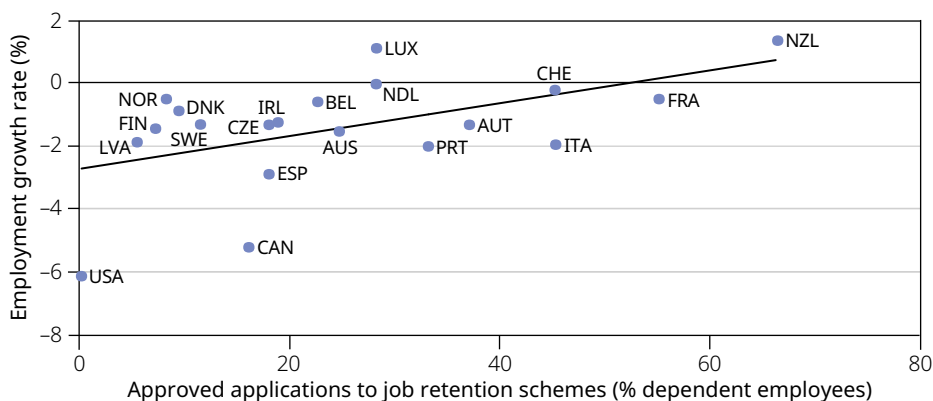
Building on the policy lessons from the global financial crisis, many governments relied heavily on job retention schemes in 2020 to keep workers in jobs – these measures include both short-time work arrangements and wage subsidies. At the peak of the lockdowns in May 2020, these schemes were supporting 50 million workers in OECD countries, which is ten times the number at the time of the global financial crisis (OECD 2020). The best-known programme is the German *Kurzarbeit*, which successfully helped the manufacturing sector in Germany cope with the global financial crisis. This scheme was simplified and extended (in duration – to 24 months – and in coverage – to agency workers) during the COVID-19 crisis. Consequently, the number of workers covered by the programme reached around 6.0 million in April 2020, up from under 45,000 the preceding year (and a peak of 1.4 million in 2009 during the global financial crisis). Estimates suggest that 750,000 German workers were still being supported by *Kurzarbeit* in September 2021.⁹

Did the surge in these subsidies make a difference? ILO estimates for the EU (27 countries) show that working-hour losses reached 7.4 per cent in 2020, though employment fell by a much lower rate (–2 per cent), indicating that labour market adjustment in these countries was largely achieved through a reduction in working hours, which was supported by job retention schemes.¹⁰ Turning to a sample of 20 OECD countries with data on these measures, there is evidence of a positive and significant relationship between approved applications to job retention schemes as a share of dependent employees and the employment growth rate in 2020 (figure 6). The positive relationship is evident for countries, such as New Zealand, that did not have a scheme prior to the crisis. The United States is positioned at the other end of the spectrum. However, in the case of the United States, workers who are temporarily laid off (in other words, furloughed) are counted as unemployed (on temporary layoff). In May 2020, there were 15.3 million US workers in this category, falling to 1.8 million in May 2021.¹¹

⁹ Federal Employment Agency, “Realisierte Kurzarbeit (hochgerechnet) Deutschland, Länder, Regionaldirektionen, Agenturen für Arbeit und Kreise (Monatszahlen)” database. https://statistik.arbeitsagentur.de/SiteGlobals/Forms/Suche/Einzelheftsuche_Formular.html;jsessionid=FA5B4396D5AE4CB407997EAFEE082F18?nn=1524090&topic_f=kurzarbeit-hr (accessed December 2021).

¹⁰ Authors’ calculations, ILO modelled estimates, ILOSTAT.

¹¹ United States Bureau of Labor Statistics, “Unemployed Persons by Reason for Unemployment, Seasonally Adjusted”, Labor Force Statistics from the Current Population Survey. <https://www.bls.gov/web/empsit/cpseea11.htm> (accessed May 2021).

Figure 6. Relationship between job retention schemes and employment growth rate in 2020

Sources: Approved applications to job retention schemes as a share of dependent employees – OECD (2020); employment growth rate – authors' calculations, labour force surveys, ILOSTAT (accessed 17 June 2021).

4. What happened to the jobless? A larger increase in inactivity than in unemployment

A decline in employment during a recession, such as that highlighted in figure 3, would normally translate into an increase in unemployment. This was the case following the global financial crisis, when the global youth unemployment rate rose from 12.4 per cent in 2008 to 13.4 per cent in 2009. Either as a new labour market entrant or as a person who has recently lost their job or livelihood, jobseekers will search for jobs – a prerequisite to be considered unemployed – unless they believe that the benefits of searching are lower than the costs (or if the job search is constrained for other reasons).

During the COVID-19 crisis, the shift from employment to non-employment has been very different due to the unique nature of the downturn. In particular, the lockdown and other containment measures have meant that the jobless have been restricted in their ability to search for jobs due to workplace closures and social-distancing requirements. Moreover, the same measures have prevented people from being available to take up work. Other explanations that deserve further investigation include the effects of the unequal childcare burden on women, which increased their inactivity and made them unavailable to work and search for jobs, and the impact of voluntary social distancing. Overall, global employment losses (114 million) have resulted in a rise in inactivity of 81 million compared with an increase in unemployment of 33 million (ILO 2021a).

A simple decomposition of aggregate labour market outcomes¹² shows how the decline in employment in 2020 at the country level has been accompanied

¹² Changes can be broken down into changes in unemployment and inactivity using the following simple decomposition: Working-age population = Employment + Unemployment + Inactivity, which can be transformed into $-\Delta\left(\frac{E}{WAP}\right)_t = \Delta\left(\frac{U}{WAP}\right)_t + \Delta\left(\frac{I}{WAP}\right)_t$, where Δ denotes change from 2019 to 2020, WAP = working-age population, E = employment, U = unemployment, and I = inactivity (persons outside the labour force). For a definition of unemployment and inactivity, see ILO (2013). See also ILO (2020a).

Table 2. Decomposition of the change in the employment–population ratio into changes in unemployment and inactivity, 2019 to 2020 (percentage points)

	Change from 2019 to 2020		
	Employment– population ratio (E/P)	Unemployment ratio (U/P)	Inactivity rate (I/P)
High-income economies			
Australia	-1.7	0.8	0.9
Austria	-1.1	0.5	0.6
Belgium	-0.6	0.1	0.6
Canada	-4.0	2.3	1.7
Chile	-6.1	1.8	4.3
Croatia	-0.5	0.4	0.1
Cyprus	-0.6	0.3	0.3
Czechia	-0.9	0.3	0.6
Denmark	-0.7	0.4	0.4
Estonia	-1.5	1.5	0.0
Finland	-1.0	0.6	0.4
France	-0.5	-0.3	0.7
Greece	-0.3	-0.7	1.0
Hong Kong, China	-2.7	1.7	1.0
Hungary	-0.7	0.5	0.2
Ireland	-1.6	0.4	1.2
Italy	-0.9	-0.5	1.4
Japan	-0.4	0.3	0.1
Latvia	-0.7	1.1	-0.4
Lithuania	-0.9	1.4	-0.5
Luxembourg	-0.6	0.7	-0.2
Malta	0.4	0.4	-0.8
Netherlands	-0.5	0.3	0.2
New Zealand	-0.6	0.3	0.3
Norway	-0.8	0.5	0.3
Poland	0.0	-0.1	0.1
Portugal	-1.4	0.1	1.2
Republic of Korea	-0.8	0.1	0.8
Romania	-0.7	0.6	0.1
Slovakia	-1.2	0.5	0.6
Slovenia	-0.6	0.3	0.3
Spain	-1.8	0.6	1.2
Sweden	-1.1	1.1	0.1
Switzerland	-0.6	0.3	0.4
Taiwan, China	-0.1	0.1	0.0
United States	-4.0	2.7	1.4
Middle-income economies			
Albania	-0.9	0.0	0.8
Bolivia (Plurinational State of)	-3.8	2.8	1.0
Brazil	-5.7	0.4	5.3
Bulgaria	-1.5	0.5	1.0

(continued overleaf)

Table 2. Decomposition of the change in the employment–population ratio into changes in unemployment and inactivity, 2019 to 2020 (percentage points) (concl.)

	Change from 2019 to 2020		
	Employment– population ratio (E/P)	Unemployment ratio (U/P)	Inactivity rate (I/P)
Middle-income economies (concl.)			
Colombia	-7.5	2.7	4.8
Costa Rica	-6.7	3.1	3.6
Indonesia	-1.2	0.4	0.8
Mongolia	0.2	-1.9	1.7
Montenegro	-4.9	0.9	4.1
North Macedonia	-2.5	-0.6	3.1
Occupied Palestinian Territory	-2.7	-0.6	3.3
Republic of Moldova	-1.3	-0.6	1.9
Russian Federation	-1.0	0.7	0.3
Serbia	0.1	-0.8	0.7
South Africa	-3.8	-1.0	4.7
Thailand	-0.2	0.3	-0.1
Turkey	-2.8	-0.8	3.6
Viet Nam	-2.0	0.2	1.8

Note: E = employment; U = unemployment; I = inactivity; P = working-age population (aged 15+).

Source: Authors' calculations based on ILOSTAT data (accessed 18 June 2021).

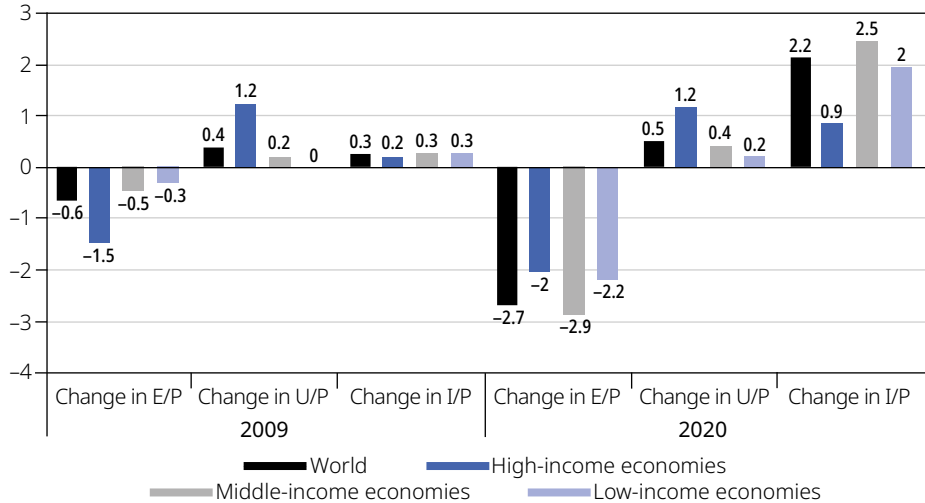
by a greater increase in inactivity than in unemployment in most countries, but less so among high-income economies. In the case of the latter group only 15 countries or 44.4 per cent of the sample witnessed a greater rise in inactivity than unemployment (table 2). The rise in unemployment was significantly higher than the increase in inactivity in advanced economies such as Canada, Estonia, Hong Kong (China), Latvia, Lithuania, Sweden and the United States. In the sample of middle-income economies, the tendency for a greater increase in inactivity in 2020 was much stronger, with 15 – or 83.3 per cent of cases – showing this trend. In some economies, such as Brazil, Montenegro, North Macedonia, South Africa and Turkey, the decrease in employment has resulted in a much stronger rise in inactivity than unemployment (where the latter has even declined in some cases).

In comparison with the COVID-19 crisis, the decrease in employment during the global financial crisis, which was most pronounced in high-income countries, translated into a greater increase in unemployment than inactivity (figure 7). ILO modelled estimates show that, in the case of high-income economies, the decline in the employment-to-population ratio in 2009 (over the previous year) is estimated at 1.5 percentage points, resulting in an increase in the unemployment-to-population ratio¹³ of 1.2 points, while the inactivity rate rose by just 0.2 points.¹⁴

¹³ The unemployment ratio is equal to the number of unemployed young people divided by the youth population (aged 15 to 24), while the unemployment rate is the number of unemployed young people divided by the youth labour force (= employment + unemployment).

¹⁴ The rise in inactivity in 2009 also reflects longer-term trends – the increase in 2009 was, in fact, similar to the rise witnessed in 2008. In contrast, the increase in 2020 broke with the recent trends (given an increase of 2.2 percentage points from 2019 to 2020 compared with no change in the inactivity rate from 2018 to 2019).

Figure 7. Decomposition of the decline in employment in 2009 and 2020 (over previous year) into changes in unemployment and inactivity for the world and high-, middle- and low-income economies (percentage points)



Note: E = employment; U = unemployment; I = inactivity; P = working-age population (aged 15+).

Sources: Authors' calculations based on ILO modelled estimates, ILOSTAT (accessed 18 June 2021).

The global estimates for 2020 reflect the trends highlighted in table 2: the fall in the employment-to-population ratio resulted in a much greater increase in the inactivity rate in developing countries. In the case of middle-income countries, the employment-to-population ratio fell by 2.9 percentage points in 2020, leading to an increase of 0.4 points in the unemployment ratio and of 2.5 points in the inactivity rate.

5. Sectoral impact of the COVID-19 crisis: The service sector hit harder due to lockdowns

Based on the available data at the end of March 2020, the ILO identified four sectors as being at high risk of having a substantial impact on the labour market: accommodation and food service activities; wholesale and retail trade; real estate, business and administrative activities; and manufacturing (ILO 2020b). At the same time, it was expected that education, human health and social work, public administration, and utilities would be less susceptible to the initial impact on account of the nature of the shock and the industries concerned (which typically enjoy greater job protection, for example).

Drawing on ILO modelled estimates for 2020 made available at the end of 2020, the decline in employment at the sectoral level (International Standard Industrial Classification, Rev. 4) reveals both strong consistencies with the predictions made in April 2020 (ILO 2020b) and some variations (table 3). In particular, the largest declines in employment are evident in sectors classified as being at high risk, namely accommodation and food services (-9.4 per cent)

Table 3. Year-on-year sectoral employment growth rates in 2020 compared with the predictions of at-risk status and global growth rates in 2009

Sector	Global employment growth rate (%)		At-risk status – April 2020 (ILO 2020b)
	2009	2020	
I. Accommodation and food service activities	2.9	-9.4	High
C. Manufacturing	-1.3	-7.9	High
F. Construction	3.1	-7.6	Medium
R, S, T, U. Other services	2.1	-6.3	Medium-high
D, E. Utilities	3.3	-4.6	Low
G. Wholesale and retail trade; repair of motor vehicles and motorcycles	1.4	-3.3	High
B. Mining and quarrying	1.4	-3.0	Medium
L, M, N. Real estate; business and administrative activities	2.6	-2.5	High
H, J. Transport, storage; communication	0.8	-1.2	Medium-high
A. Agriculture; forestry and fishing	-1.3	-1.1	Low-medium
P. Education	2.2	-1.1	Low
Q. Human health and social work activities	3.0	-0.9	Low
O. Public administration and defence; compulsory social security	2.1	0.7	Low
K. Financial and insurance activities	0.6	1.5	Medium

Sources: ILO modelled estimates, ILOSTAT (accessed 9 December 2021); at-risk status – ILO (2020b).

and manufacturing (–7.9 per cent). Decline in employment was also significant in the cases of construction (–7.6 per cent) and other services (–6.3 per cent), which includes arts, entertainment and recreation, and activities of households as employers (including domestic work). In contrast, employment in the public sector and financial and insurance activities both experienced positive growth in 2020, the only two sectors to do so.

These sectoral employment growth rates diverge from the global estimates for 2009 (column 2, table 3). First, in 2009 global employment grew in all sectors apart from manufacturing (decline of 1.3 per cent) and agriculture (decline of 1.3 per cent). However, the decline in agriculture was part of a longer-term trend linked to structural transformation (in the shift of workers out of agriculture) rather than the impact of the global financial crisis per se. In fact, employment in the agricultural sector declined by a similar amount in 2008 (and continued to do so over the period following the global financial crisis). Thus, as noted above, manufacturing was, in general, the hardest-hit sector in 2009 in terms of global employment losses. In contrast to the COVID-19 crisis, employment in accommodation and food services experienced strong growth in 2009, similar to other service sector industries.

During crises induced by economic/financial shocks, a downturn typically results in the shedding of jobs in the formal sector owing to their exposure to a fall in demand, including through trade channels, and the effects of a credit crunch. Owing to its low entry costs, the informal sector often acts as an absorber of workers who have lost jobs in the formal sector (turning, for example, to street

trading).¹⁵ In the context of household labour supply, job losses can result in an increase in the supply of women's labour to the informal economy in response to the layoff of a spouse. This is known as an "added-worker effect". For example, during the 1997 Asian Financial Crisis, informal sector employment increased in Indonesia as a household coping mechanism (see, for example, Islam and Chowdhury 2009; Matsumoto and Verick 2011).

In contrast, during the COVID-19 crisis, informal employment has been negatively impacted due to lockdowns and other containment measures, which have prevented informal enterprises and workers from engaging in economic activity. The ILO has found that one of the key reasons for the upward revision of working-hour losses in 2020 and the greater losses in developing countries is the higher share of informal employment in these economies (ILO 2020a). Based on the analysis of data for 11 countries, informal wage workers were, on average, three times more likely than those in formal employment to lose their jobs during the COVID-19 crisis (ILO 2021b).

6. A continued effect on youth and a heightened impact on women

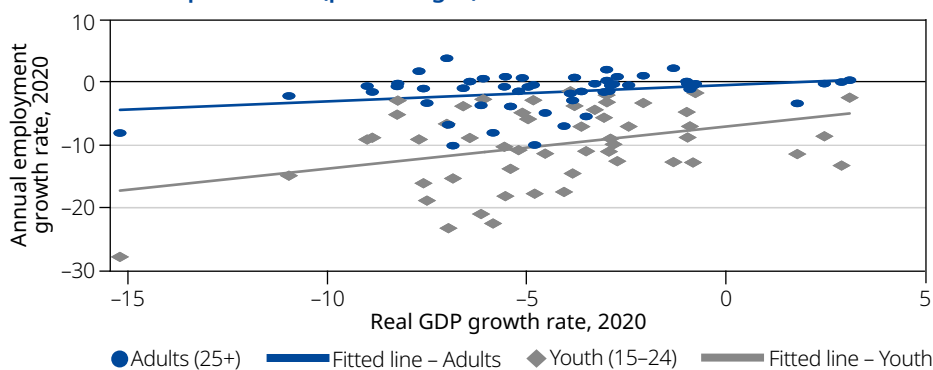
As was evident in 2009 during the global financial crisis (see, for example, Verick 2009) and in previous downturns, youth are especially vulnerable to the impact of an economic shock on the labour market.¹⁶ Young people are more sensitive to a decline in GDP because they represent a large share of new jobseekers, are more likely to work in less-protected jobs and tend to be less expensive to fire (in both cases owing to EPL provisions and other forms of labour legislation, and the inherent costs for employers of losing firm-specific capital, which is greater the more experienced the worker). Young people also have weaker networks (linking them to those who could assist them in finding a job) and face greater barriers to undertaking a job search (Verick 2009).

Previous recessions have led not only to greater falls in employment and increases in unemployment for young people over the short term, but also to a rise in long-term unemployment and overall detachment of youth from the labour market, which is captured by the not in employment, education or training (NEET) rate. Consequently, the labour market for young people typically takes longer to recover, damage persisting for many years after the initial economic decline, as witnessed in the years following the global financial crisis. As highlighted above, before the COVID-19 crisis hit, the global youth unemployment rate had never returned to its pre-global financial crisis levels. The scarring effects of crises for young people have been well documented in the empirical literature (see, for example, Kahn 2010; Schwandt and von Wachter 2019).

¹⁵ For a discussion on informality, see, for example, Jütting and de Laiglesia (2009).

¹⁶ At the same time, there is some early evidence that, in contrast to previous crises, COVID-19 has adversely affected the labour market outcomes of older workers (see, for example, Bui, Button and Picciotti 2020). Moreover, older people have suffered much more in terms of the health effects of COVID-19.

Figure 8. Sensitivity of youth (15–24) versus adult (25+) employment to changes in output in 2020 (percentages)



Sources: Real GDP growth rate – Economist Intelligence Unit; employment – authors' calculations based on ILOSTAT data (accessed 20 June 2021).

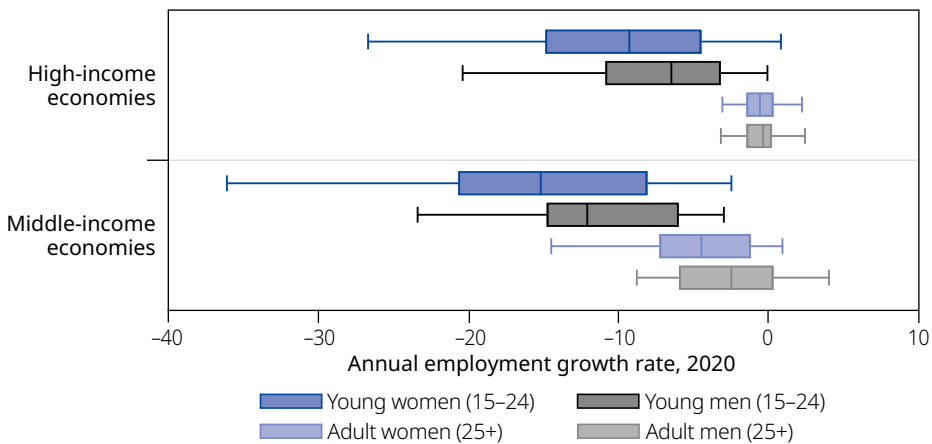
The COVID-19 crisis has been no different and arguably worse for young people than previous crises because they have suffered across three dimensions: (1) disruptions to education, training and work-based learning; (2) increased difficulties for young jobseekers and new labour market entrants; and (3) job and income losses, along with a deteriorating quality of employment (ILO 2020c and 2021c).

The greater sensitivity of youth employment to a decline in economic output during the COVID-19 crisis is reflected in the data for 2020 (figure 8), which show that, for a given decline in economic output, there is a larger reduction in employment for young people than for adults. For young people, on average, a decline in GDP of 10 percentage points translates into a decline in youth employment of 6.7 percentage points, compared with 2.6 points for adults aged 25 and above.

Due to the specific nature of the COVID-19 crisis, particularly in terms of its greater impact on the service sector, women – especially young women – have suffered more in the labour market. In addition, women's job losses have been exacerbated by the unequal distribution of increased care responsibilities during the crisis, which have affected women disproportionately and reduced their availability to work, including remotely, and to look for a job (ILO 2020d).

Using the sample of (middle- and high-income) economies with available data for 2020, the differences in employment losses by gender and age are apparent, along with differences between high- and middle-income economies. These data show that employment declined in high-income economies, on average, by 10 per cent for young women and by 8.1 per cent for young men compared with growth rates of -0.8 and -0.7 per cent for adult women and men aged 25 and above, respectively (see figure 9 for a broader view of the distribution of these values in this sample). As noted above, the fall in employment was greater in middle-income economies: in 2020, the decrease in employment reached 15.6 per cent for young women and 11.4 per cent for young men in these economies, while adult women and men experienced a decline of 4.7 and 2.8 per cent, respectively.

Figure 9. Comparison of annual employment growth rate in high- and middle-income economies by gender and age in 2020 (percentages)



Notes: The box chart is based on a sample of 52 economies (37 high-income and 15 middle-income) with available annual data for employment (unweighted). The graph should be read as follows: (a) the vertical line inside each box represents the median value (50th percentile); (b) the left-hand side of the box represents the 25th percentile; (c) the right-hand side of the box represents the 75th percentile; (d) the lines at the end of the whiskers to the left and right of the box represent the lowest and highest values, respectively.

Source: Authors' calculations based on labour force survey data, ILOSTAT (accessed 20 June 2021).

Compared with the COVID-19 crisis, in 2009 global youth employment declined at a lower rate than in 2020, at -2.4 per cent for young women and at -2.5 per cent for young men.¹⁷ At the same time, employment continued to grow for adults (aged 25 and above) around the world in 2009 (by about 1 per cent). In high-income countries, employment fell across all age groups and gender breakdowns in 2009 but this was more pronounced among young people, especially young men (-8.5 per cent for young men and -5.8 per cent for young women).

7. Conclusion: Overcoming risks to recovery by tackling headwinds and continuing uncertainty

While it is too early to draw definitive conclusions about the impact of the COVID-19 crisis, the analysis presented above reveals a number of trends that often diverge from the experience of the global financial crisis in 2009. Overall, the impact of the COVID-19 crisis has been far more widespread in terms of both the breadth and depth of its impact on economies and labour markets around the world, mainly as a result of lockdowns and other containment measures that have severely curtailed economic activity. In contrast to the global financial crisis, few countries and groups within national boundaries have escaped all the negative effects of the COVID-19 crisis. However, certain sectors, such as accommodation and food services, and certain population groups, including women and young people, have been more negatively affected

¹⁷ Authors' calculations, ILO modelled estimates, ILOSTAT.

than others. The unique nature of the crisis has also resulted in unexpected labour market adjustment patterns, such as the greater rise in inactivity than in unemployment.

Based on a sample of middle- and high-income countries, employment losses in 2020 are best explained by the strictness of lockdown and other containment measures, which curtailed economic activity by impacting both the supply and demand sides of the economy. Building on the empirical analysis presented in this article, the benefits of fiscal stimulus packages and other policy measures, including job retention schemes, need to be further evaluated once more data become available on the implementation of measures (though attribution of effects to single policies will remain difficult).

Given the likely persistence of the crisis-induced jobs deficits, policymakers around the world will need to continue supporting the economy and labour market for some time. Over the coming years, these policy responses will need to take into account five key risks.

First, the COVID-19 crisis is likely to lead to longer-term structural changes to the economy and labour market (effects on the structure of the economy and shifts between and within sectors) than the global financial crisis. Some of these changes might not be in the direction of fairer and more inclusive economies. Many sectors, such as those linked to tourism, are unlikely to return to their pre-pandemic situations, at least in the near future. This implies that policies will need to adapt to these changes by providing continuing protection to some sectors while also facilitating the shift of resources to others, including new sectors that have the potential to create decent and productive employment.

Second, given the shift of the jobless into inactivity and the subsequent rise in unemployment as the crisis has progressed, employment policies and active labour market programmes, matched by the necessary capacity and resources, will need to support people's transitions, particularly in terms of getting people back into employment.

Third, young people around the world will need specific support to enter the labour market. A lesson learned from the global financial crisis is that measures targeting youth need to be comprehensive – as seen, for example, in the EU Youth Guarantee.¹⁸ In addition, given the more severe impact on women, an integrated approach is needed to ensure that recovery measures also address gender disparity. This will involve looking at how investments and job creation can benefit women, including in such sectors as the digital and care economies. Constraints on women's participation in the labour market, which have been further exacerbated by the COVID-19 crisis, need to be tackled with renewed efforts and resources (for example, through care services, leave policies and flexible work arrangements to help families better juggle their care responsibilities).

Fourth, policy responses will need to overcome the worsening inequality that appeared during the crisis, and which may suppress aggregate demand and economic recovery. The biggest concern is the severe impact on developing and emerging economies, which will result not only in a worsening of employ-

¹⁸ See the revamped EU Youth Guarantee: <https://ec.europa.eu/social/main.jsp?catId=1079&langId=en>.

ment outcomes for millions of people around the world but also in an increase in poverty. The global convergence of previous decades has come undone. To bring these economies back to pre-pandemic growth trajectories will require strong international solidarity, including efforts to ensure that they have access to vaccines as soon as possible and greater support for development financing (namely through debt renegotiations and relief).

Lastly, given the highly differentiated impacts, especially between different groups, there is a high risk of a K-shaped recovery. If policymakers only focus on “averages” during the recovery without taking account of the distributional aspects, policies may be withdrawn prematurely. This could have a negative impact on the recovery itself through its effects on aggregate demand but also by exacerbating inequalities in the labour market, which will have long-term consequences.

References

- Altig, David E., Scott Baker, Jose Maria Barrero, Nicholas Bloom, Philip Bunn, Scarlet Chen, Steven Davis, et al. 2020. “Economic Uncertainty in the Wake of the COVID-19 Pandemic”. *VoxEU*, 24 July 2020. <https://voxeu.org/article/economic-uncertainty-wake-covid-19-pandemic>.
- Baker, Scott, Nicholas Bloom, Steven Davis, and Stephen Terry. 2020. “COVID-Induced Economic Uncertainty and Its Consequences”. *VoxEU*, 13 April 2020. <https://voxeu.org/article/covid-induced-economic-uncertainty-and-its-consequences>.
- Baldwin, Richard. 2009. “The Great Trade Collapse: What Caused It and What Does It Mean?” *VoxEU*, 27 November 2009. <https://voxeu.org/article/great-trade-collapse-what-caused-it-and-what-does-it-mean#:~:text=According%20to%20the%20emerging%20consensus,and%20their%20parts%20and%20components>.
- Bui, Truc Thi Mai, Patrick Button, and Elyce G. Picciotti. 2020. “Early Evidence on the Impact of COVID-19 and the Recession on Older Workers”, NBER Working Paper No. 27448. Cambridge, MA: National Bureau of Economic Research.
- Bundervoet, Tom, Maria E. Dávalos, and Natalia Garcia. 2021. “The Short-Term Impacts of COVID-19 on Households in Developing Countries: An Overview Based on a Harmonized Data Set of High-Frequency Surveys”, Policy Research Working Paper 9582. Washington, DC: World Bank.
- Cazes, Sandrine, Sher Verick, and Fares Al Hussami. 2013. “Why Did Unemployment Respond so Differently to the Global Financial Crisis across Countries? Insights from Okun’s Law”. *IZA Journal of Labor Policy* 2 (1): 1–18.
- Chen, Wenjie, Mico Mrkaic, and Malhar S. Nabar. 2019. “The Global Economic Recovery 10 Years after the 2008 Financial Crisis”, IMF Working Paper WP/19/83. Washington, DC: IMF.
- Chowdhury, Anis, and Iyanatul Islam. 2012. “The Debate on Expansionary Fiscal Consolidation: How Robust Is the Evidence?” *Economic and Labour Relations Review* 23 (3): 13–38.
- Chowdhury, Anis, and Piotr Żuk. 2018. “From Crisis to Crisis: Capitalism, Chaos and Constant Unpredictability”. *Economic and Labour Relations Review* 29 (4): 375–393.
- Gornicka, Lucyna, Christophe Kamps, Gerrit Koester, and Nadine Leiner-Killinger. 2020. “Learning about Fiscal Multipliers during the European Sovereign Debt Crisis”. *VoxEU*, 23 January 2020. <https://voxeu.org/article/fiscal-multipliers-during-european-sovereign-debt-crisis>.
- Hale, Thomas, Noam Angrist, Rafael Goldszmidt, Beatriz Kira, Anna Petherick, Toby Phillips, Samuel Webster, et al. 2021. “A Global Panel Database of Pandemic Policies (Oxford COVID-19 Government Response Tracker)”. *Nature Human Behaviour* 5 (4): 529–538.

- House, Christopher L., Christian Proebsting, and Linda L. Tesar. 2020. "Austerity in the Aftermath of the Great Recession". *Journal of Monetary Economics* 115 (November): 37–63.
- ILO. 2013. Resolution concerning statistics of work, employment and labour underutilization. 19th International Conference of Labour Statisticians. Geneva.
- . 2020a. "ILO Monitor: COVID-19 and the World of Work". 6th ed., 23 September 2020. Geneva.
- . 2020b. "ILO Monitor: COVID-19 and the World of Work". 2nd ed., 7 April 2020. Geneva.
- . 2020c. "Preventing Exclusion from the Labour Market: Tackling the COVID-19 Youth Employment Crisis", ILO Policy Brief, May 2020. Geneva.
- . 2020d. "ILO Monitor: COVID-19 and the World of Work". 5th ed., 30 June 2020. Geneva.
- . 2021a. "ILO Monitor: COVID-19 and the World of Work". 7th ed., 25 January 2021. Geneva.
- . 2021b. *World Employment and Social Outlook: Trends 2021*. Geneva.
- . 2021c. "An Update on the Youth Labour Market Impact of the COVID-19 Crisis", ILO Statistical Brief, June 2021. Geneva.
- IMF (International Monetary Fund). 2021. "Fiscal Monitor: A Fair Shot", April 2021. Washington, DC.
- Islam, Iyanatul, and Anis Chowdhury. 2009. *Growth, Employment and Poverty Reduction in Indonesia*. Geneva: ILO.
- Jütting, Johannes P., and Juan R. de Laiglesia, eds. 2009. *Is Informal Normal? Towards More and Better Jobs in Developing Countries*. Paris: OECD Development Centre.
- Kahn, Lisa B. 2010. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy". *Labour Economics* 17 (2): 303–316.
- Lee, Sangheon, Dorothea Schmidt-Klau, Johannes Weiss, and Juan Chacaltana. 2020. "Does Economic Growth Deliver Jobs? Revisiting Okun's Law", ILO Working Paper No. 17. Geneva: ILO.
- Matsumoto, Makiko, and Sher Verick. 2011. "Employment Trends in Indonesia over 1996–2009: Casualization of the Labour Market during an Era of Crises, Reforms and Recovery", ILO Employment Working Paper No. 99. Geneva: ILO.
- OECD (Organisation for Economic Co-operation and Development). 2009. *Policy Responses to the Economic Crisis: Investing in Innovation for Long-Term Growth*. Paris.
- . 2020. *Job Retention Schemes during the COVID-19 Lockdown and Beyond*. Paris.
- Prasad, Eswar, and Isaac Sorkin. 2009. "Assessing the G-20 Stimulus Plans: A Deeper Look". 5 March 2009. Washington, DC: Brookings Institute.
- Reinhart, Carmen M., and Kenneth S. Rogoff. 2009. "The Aftermath of Financial Crises". *American Economic Review: Papers & Proceedings* 99 (2): 466–472.
- Schwandt, Hannes, and Till M. von Wachter. 2019. "Unlucky Cohorts: Estimating the Long-Term Effects of Entering the Labor Market in a Recession in Large Cross-Sectional Data Sets". *Journal of Labor Economics* 37 (S1): S161–S198.
- UN (United Nations). 2006. *World Economic Situation and Prospects as of Mid-2006*. New York, NY.
- UNWTO (World Tourism Organization). 2020. "Tourism back to 1990 Levels as Arrivals Fall by More than 70%", 17 December 2020. <https://www.unwto.org/news/tourism-back-to-1990-levels-as-arrivals-fall-by-more-than-70>.
- Verick, Sher. 2009. "Who Is Hit Hardest during a Financial Crisis? The Vulnerability of Young Men and Women to Unemployment in an Economic Downturn", IZA Discussion Paper No. 4359. Bonn: Institute for the Study of Labor.
- Verick, Sher, and Iyanatul Islam. 2010. "The Great Recession of 2008–2009: Causes, Consequences and Policy Responses", IZA Discussion Paper No. 4934. Bonn: Institute for the Study of Labor.