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A fiscal and monetary policy toolbox in days of crisis

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Table of contents

Key findings

- The looming crisis will be unprecedented in both its causes and its scale. Most probably, the world economy will suffer a slump deeper than that of 2009. Poland's GDP will fall for the first time since 1991. In three weeks, over 16 million Americans filed unemployment claims, more than during the whole crisis of 2007–2009. In Italy, the PMI dropped to a record low (17.4), probably the lowest ever recorded in any country.
- This is the first time that governments have locked down economies on such a scale in times of peace. At present, more than one-third of the world's population is subject to various restrictions on travel and movement, 188 countries have closed schools, all the EU Member States – apart from Sweden – have shut down shopping centres (other than grocery shops, pharmacies and a few other exceptions), restaurants and bars (only allowing take-away sales). Public events are forbidden; all conferences, trade fairs, cultural events and other larger gatherings have been cancelled. This has created a negative supply impulse reducing demand (lower earnings, lay-offs), which may contribute to difficulties in the banking sector, more insolvencies or even a financial crisis. At the same time, the restrictions and high uncertainty have been having a negative impact on the public mood, with an additional downward effect on consumer demand.
- The experience of prior crises may be helpful, but only to a limited degree. As a result of the financial crisis of 2007–2009, central banks became accustomed to quantitative easing (government bond purchases) and again appreciated the role of fiscal policy. The SARS epidemic of 2003 raised hopes for a rapid economic recovery (a v-shaped recession). But this scenario is increasingly unlikely.
- Nearly all governments worldwide have been taking action to protect their economies against the shock caused by the pandemic and the restrictions introduced. These include both fiscal and monetary policy measures. To a certain extent, these measures reflect the lessons learnt by individual countries from previous crises. Central banks' swift responses resemble the actions taken during the financial crisis (often too late at the time), while declarations of willingness to do 'whatever it takes' to save economies are supposed to stabilise markets. Both measures aim to enable the financing of increased deficits and public debt. Some countries are re-considering nationalising certain enterprises, although now this concerns businesses in key industries rather than financial institutions (as in 2008 and 2009).
- In connection with the crisis, 65 central banks reduced their interest rates (by 3 April 2020). The Fed, the ECB, the Bank of England and a number of other institutions have begun to purchase assets, including government bonds. All the EU Member States have introduced stimulus packages, from EUR 532.5 billion in Germany to EUR 367.4 billion in France to around EUR 75 billion in Poland. The EU has taken both regulatory steps (such as relaxing the rules on granting state aid, approving deviation from rigid limitations on the budget deficit as part of the Stability and Growth Pact) and financial measures (a new fund

with appropriations of EUR 100 billion for combating the consequences of the coronavirus; the possibility to use EU Funds). The euro area countries have not chosen to issue common bonds, despite pressure from the southern Member States.

→ We identify five phases of the crisis: the disruption of production chains, the first restrictions, total lockdown, gradual relaxation of the restrictions and the new normal. The whole EU is currently in the third phase. The economic solutions introduced aim to protect economies against massive bankruptcies of businesses and the need for long-term structural adjustments, as well as limiting lay-offs and providing social protection to those most affected. The objective is to 'freeze' the economy and – if achieved – its 'unfreezing' should lead to the rapid recovery of any lost production. Governments are preparing plans for gradual 'unfreezing', while analysts and economists are designing the framework for the new normal.

→ The lessons from the eurozone crisis are that the primary goal should be to take care of the foundations for long-term economic growth (development-orientated spending and investment – education, innovation policy, the green deal) and that any cuts should be introduced later. If this approach is adopted, the crisis could offer an opportunity for improving welfare in the long term.

The report in numbers

USD 3,000 billion	the size of the fiscal packages announced by the G-20 countries and Poland in response to pandemic (new spending, as of early April 2020). Additionally USD 4,300 billion was devoted for loans and guarantees
USD 1,643 billion (in nominal terms)	the size of the fiscal packages announced by the G-20 countries in response to the crisis of 2007–2009. The US package was also the largest (USD 841 billion, around 6 per cent of GDP in 2008)
4.2 per cent of GDP	the size of Poland's first fiscal package (announced before early April 2020). In proportion to GDP, it is the sixth-largest package among the G-20 countries and Poland. However, some countries are about to announce their stimulus packages, while others continue to develop their programmes
3 billion	people are subject to various restrictions due to the fight against the coronavirus
1.5 billion	pupils attend schools that have been closed
24.7 million	new unemployed people, according the International Labour Organisation's negative scenario from mid-March 2020

16.6 million	people filed unemployment claims in the US in the three weeks from 15 March
33	possible rate of fall in consumption in connection with economic restrictions
2 pps	negative impact on GDP of each month of restrictions
193	countries have taken measures in connection with the spread of the epidemic (monitored by the IMF)
65	number of countries where central banks have cut interest rates

Introduction

In this report, we discuss lessons to be learnt from previous crises: the tools used and the results of preventive measures. In addition, we show how countries today are reconciling saving human lives with protecting their economies. We also set out the decisions we will face in the nearest future and the first recommendations for further action. Our analysis is not exhaustive: it is limited to economic policies and does not cover subjects such as epidemiological issues. Addressing them would not be possible within the time and size constraints of this report. However, we still hope that it will provide a basis for developing detailed scenarios for the new normal ahead.

The economic crisis caused by the coronavirus epidemic will be unprecedented in various ways – not only because of its scale (which cannot be estimated precisely at the current stage), but also due to how it originated. Historically, epidemics have not been rare phenomena. However, our globalised and developed world – with an economy based on extremely complex international production chains – has not yet been affected on such a scale.

Epidemics' impact on the economy can be divided into two categories. On the one hand, there are the direct consequences of infections. Based on an analysis of 15 pandemics that claimed at least 100,000 lives from the 14th century onwards, Jorda, Singh and Taylor (2020) demonstrate that these events tend to influence returns on assets as late as 40 years later, economic growth paths remain distorted and investments go down. Unlike after wars, which destroy infrastructure, there is continued upward pressure on wages and the value of money decreases. There is also a rise in public debt, as well as in savings, which may help reconstruction, but only with the appropriate rate of return. But that largely results from the loss of labour force – massive deaths among the working-age population. In this respect, the current epidemic is different: the highest mortality rate is among the elderly, who are often no longer economically active.

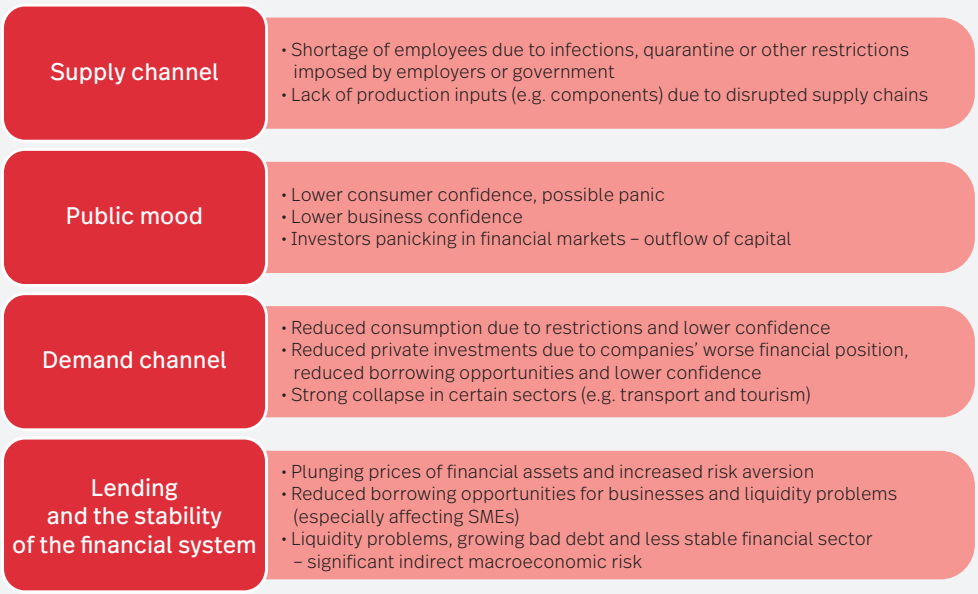
The other category of consequences, much more serious according to recent forecasts, includes the impact of measures limiting the spread of the virus. From the suspension of air traffic to the closing of borders, the cancellation of sporting events, the ban on gatherings, the closure of shops, restaurants and bars, and shutting down of all non-essential economic activity – the gradual lockdown of the economy is absolutely unprecedented. At present, approximately 3 billion people, more than one-third of the world's population, are subject to various types of restrictions (Hale et al., 2020). 188 countries have closed schools, which has affected over 1.5 billion pupils, 91.3 per cent of the total. Adverse social and economic effects could even materialise years after the pandemic.

How the crisis affects the economy

Unlike during the last global crisis of 2007–2009, the initial shock to the economy is entirely external in nature, affecting both supply and demand. Supply was first hit by the disruption of Chinese supply chains. Next, government actions reduced economic activity, from the cancellation of public events and restrictions on gatherings to locking down certain services and industries, to locking down all non-essential economic activity. These measures suppressed supply, but they also pushed down demand, reducing many workers' livelihoods almost instantly. The demand-side implications may

prevail in the long term, through the drop in the number of employed people and the psychological effects – uncertainty and concerns over the recurrence of the epidemic (Demertzis et al., 2020). The mechanism is presented in detail in the figure below.

↘ Figure 1. **The pattern of the COVID-19 epidemic's impact on the economy**



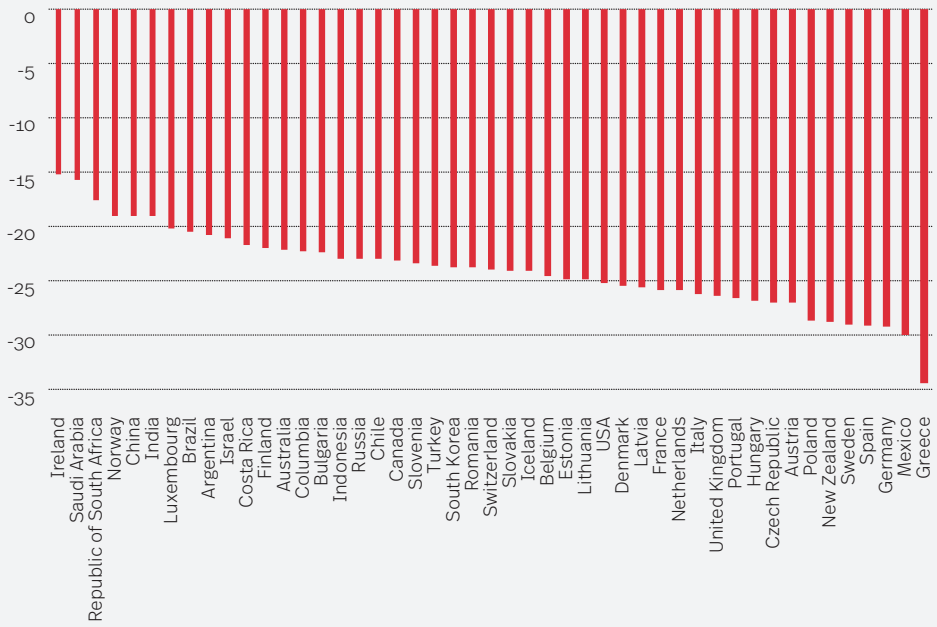
Source: prepared by the PEI.

In this situation, all economic forecasts are highly uncertain and any previous models may be inadequate.

In January, the IMF projected global economic growth to be 0.4 pp faster than in 2019. At the end of February, projections already pointed to a worse performance than in 2019, based on the assumption that the epidemic would be contained within China. The Fund now (23 March), forecasts a recession deeper than in 2009 (IMF, 2020c).

According to OECD estimates, efforts to limit the development of the COVID-19 pandemic may result in a fall in output of 20-25 per cent and a decline in consumer spending by approximately 33 per cent. Changes of this magnitude would considerably exceed anything that countries experienced in the aftermath of the financial crisis of 2007–2009. The scale of the estimated decrease corresponds to an annual fall in GDP by as much as 2 per cent per month, provided that countries maintain their prevention measures strictly. If the restrictions last three months – without compensating factors – the annual rate of GDP growth might be 4-6 pps lower than otherwise (OECD, 2020).

↘ Chart 1. The potential economic impact of restrictions on economic activity in selected countries (as a percentage of GDP)



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

As estimated by the International Labour Organisation (18 March 2020), in the 'low' scenario global GDP growth would drop by 2 pps and unemployment would rise by 5.3 million. In the pessimistic scenario, GDP growth would fall by 8 pps and there would be 24.7 million newly-unemployed people. During the crisis of 2007–2009, the increase in unemployment was 22 million (ILO, 2020).

Forecasts for China – the country hit first by the epidemic and for which the most data regarding the potential impact has been gathered – range from -1 to -11 per cent in the first quarter of 2020 and growth of between 5 and 1 per cent in 2020 as a whole (Kalwasiński, 2020). The wide differences in forecasts reflect analysts' uncertainty and helplessness faced with this new phenomenon.

An attempt to conceptualise the current crisis

At present, the policy motto is: *whatever it takes*. But what does it mean? What about the specifics? And can we really afford it? Or will we wake up in a few months with a hangover, asking ourselves, 'What on earth did we do?' – as Oliver Blanchard put it (2020).

We offer answers further in the report, showing how solutions can be adapted to specific stages based on actions taken by countries previously affected by the coronavirus that took preventive measures.

The stages of the crisis and government measures are roughly summarised in Table 1, showing how they developed from phase I to V.

↘ Table 1. Development of the economic crisis linked to the COVID-19 pandemic

Specification	Phase I – disruption of supply chains through production shut-downs by trading partners	Phase II – first lockdown – cancellation of gatherings, closure of meeting places (restaurants, etc.) and schools	Phase III – shutting down all non-essential economic activity, leaving essential services and production only	Phase IV – gradual relaxation of restrictions subject to observing safety rules	Phase V – the new normal
Direction of economic changes	Moderately negative	Negative	Very negative	Moderately positive	Positive
Type of economic policies	Automatic stabilisers, liquidity support	Short-term tools: liquidity support, maintaining employment, support for healthcare	Short- and medium-term tools: liquidity support, maintaining employment, social support, support for healthcare	Medium-term tools: a fiscal stimulus, sectoral support, capacity building in healthcare. Long-term tools: public investment	Medium-term tools: sectoral support, capacity building in healthcare. Long-term tools: containing public debt, fixed costs of maintaining response systems for another pandemic, public investment
Impact	Supply shock	Deeper supply shock and contracted demand	Supply and demand shock, negative feedback, possible financial crisis	Increased demand (unfreezing) and supply	Increased demand (public demand compensating for reduced private demand), long-term development of supply, sovereign debt crisis

Specification	Phase I – disruption of supply chains through production shut-downs by trading partners	Phase II – first lockdown – cancellation of gatherings, closure of meeting places (restaurants, etc.) and schools	Phase III – shutting down all non-essential economic activity, leaving essential services and production only	Phase IV – gradual relaxation of restrictions subject to observing safety rules	Phase V – the new normal
Risks (social)		Lost jobs in selected sectors	Widespread unemployment, lost human and institutional capital (disrupted business networks), severed social bonds	No demand bounce-back	Prevailing uncertainty driving down aggregate demand, lower living and health standards in connection with the lockdown period
What causes transition from phase to phase?	COVID-19 in Asia, first cases in our countries	First cases of locally-transmitted COVID-19, growing number of infections	Growing number of infections and deaths, mostly or exclusively locally transmitted	Flattening the curve, the number of recoveries exceeds that of new infections, effective methods for quickly identifying new infections	No cases of local transmission outside local spots (local lockdown)

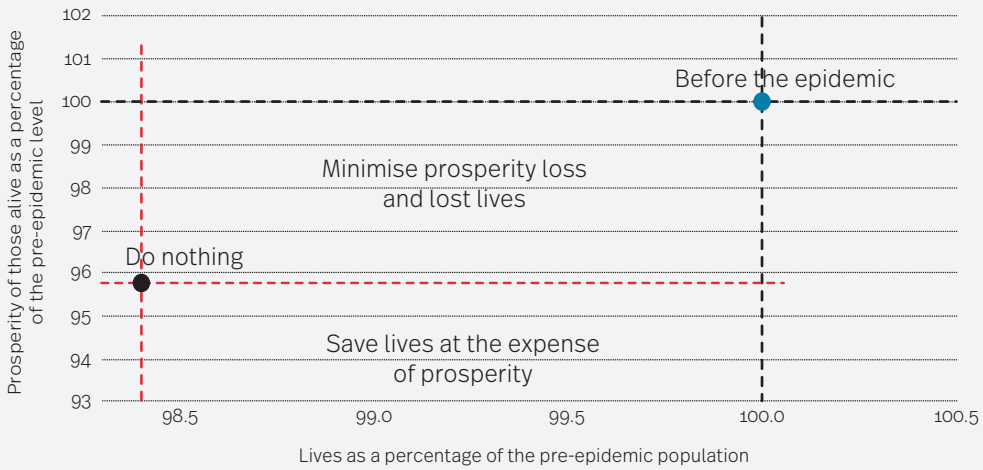
Source: prepared by the PEI.

The summary above only provides a very simplified outline of the changes. Amid such high uncertainty, a scenario-based approach to economic forecasts is more useful than a linear method. We described three economic development scenarios in the *Tygodnik gospodarczy PIE* of 19 March 2020 and McKinsey outlined as many as nine possible scenarios for the GDP path, depending on the effectiveness of healthcare measures and the economic effects of government restrictions or business planning activities (Craven et al., 2020).

The specifics and scale of the current situation prevent any simple analogies with the SARS epidemic (29 countries, slightly more than 8,000 infections, economies bouncing back quickly) or the financial and economic crisis of 2007–2009 (the collapse of the financial sector translated into the real economy and caused a debt crisis). What is so special about today's situation? From 14 March to 4 April, over 16.6 million unemployment claims were filed in the US, more than throughout the crisis of 2007–2009, when 8.7 million jobs were lost (Mutikani, 2020). It must be made clear that *this time is different*, in a negative sense.

To put it simply, today's decision-makers need to operate in an area between the present prosperity of people who are alive and lives in a situation of non-action, involving a large number of deaths (Figure 2). Saving lives and protecting prosperity are not alternatives; to a certain degree, both can be done. However, it is not feasible to limit the number of deaths and to maintain fully functioning economies at the same time.

↘ Figure 2. **The dilemma model relating to the current crises**



Source: prepared by the PEI based on the lecture by Ben Moll et al. available at: https://www.youtube.com/watch?v=WYisQeoha7U [accessed: 8.4.2020] and a study by R. Szarfenberg, https://twitter.com/ RSzarfenberg/status/1245353623128805376 [accessed: 8.4.2020].

↘ Table 2. Economic measures adopted by selected countries to fight the pandemic (according to the number of confirmed infections by 14 April)

Country	Fiscal policies	Interest rate cuts	Macro-financial tools	Monetary policy tools	Trade
United States	✓	✓	×	✓	×
Spain	✓	×	✓	✓	×
Italy	✓	×	✓	✓	×
France	✓	×	✓	✓	×
Germany	✓	×	✓	✓	×
United Kingdom	✓	✓	✓	✓	×
China	✓	×	✓	✓	✓
Turkey	✓	✓	×	✓	✓
Belgium	✓	×	✓	✓	×
Netherlands	✓	×	✓	✓	×
Switzerland	✓	×	✓	✓	✓
Canada	✓	✓	✓	✓	×
Brazil	✓	✓	✓	✓	✓
Portugal	✓	×	✓	✓	×
Austria	✓	×	✓	✓	×
Israel	✓	×	✓	✓	✓
Sweden	✓	✓	✓	✓	×
Ireland	✓	×	✓	✓	×
South Korea	✓	✓	✓	✓	✓
India	✓	×	✓	✓	✓
Japan	✓	×	✓	✓	×
Chile	✓	✓	✓	✓	✓
Poland	✓	✓	×	✓	×

Country	Fiscal policies	Interest rate reductions	Macro-financial tools	Monetary policy tools	Trade
Romania	✓	✓	×	✓	×
Norway	✓	✓	×	✓	×
Denmark	✓	✓	×	✓	×
Australia	✓	✓	✓	✓	×
Czech Republic	✓	✓	×	✓	×
Pakistan	✓	✓	×	✓	×
Mexico	✓	✓	✓	✓	✓
Saudi Arabia	✓	✓	✓	✓	×
Indonesia	✓	✓	×	✓	✓
Luxembourg	✓	×	✓	✓	×
Finland	✓	×	✓	✓	×
Argentina	✓	✓	×	✓	✓
RSA	✓	✓	×	✓	×
Greece	✓	×	✓	✓	×
Iceland	✓	✓	✓	✓	✓
Hungary	✓	×	✓	✓	×
Estonia	✓	×	✓	✓	×
New Zealand	✓	✓	✓	✓	×
Slovenia	✓	×	✓	✓	×
Lithuania	✓	×	✓	✓	×
Slovakia	✓	×	✓	✓	×
Bulgaria	✓	×	✓	×	×
Latvia	✓	×	✓	✓	×

Whether or not a country used a tool is highlighted in green or red respectively.

Source: prepared by the PEI based on data from the IMF and the John Hopkins University.

Even countries that decided against a radical lockdown (such as Sweden) before this report was completed needed to introduce certain restrictions, e.g. a ban on public events or large gatherings. At the same time, it is unclear whether it is possible to be unambiguously guided by one of the two values – to focus on minimising the number of deaths while accepting significant losses in prosperity (presumably, serious economic problems would also translate into health issues for the population) or to maintain prosperity while ignoring human lives (the resulting disease-related panic would push demand down anyway). Those in power therefore face an extremely difficult choice: they must seek an optimal point of saving lives while protecting the economy with anti-crisis policies.

This economic challenge was also presented by Paul Krugman (2020) in his division of the economy into two sectors: E (*essential services*) and N (*non-essential services*). The E sector needs to work to supply food and activities essential to maintaining security and basic welfare, while the N sector must be frozen for the duration of the crisis to halt the spread of the virus. According to Krugman countries should shut down the N sectors during the crisis and ensure their workers' survival.

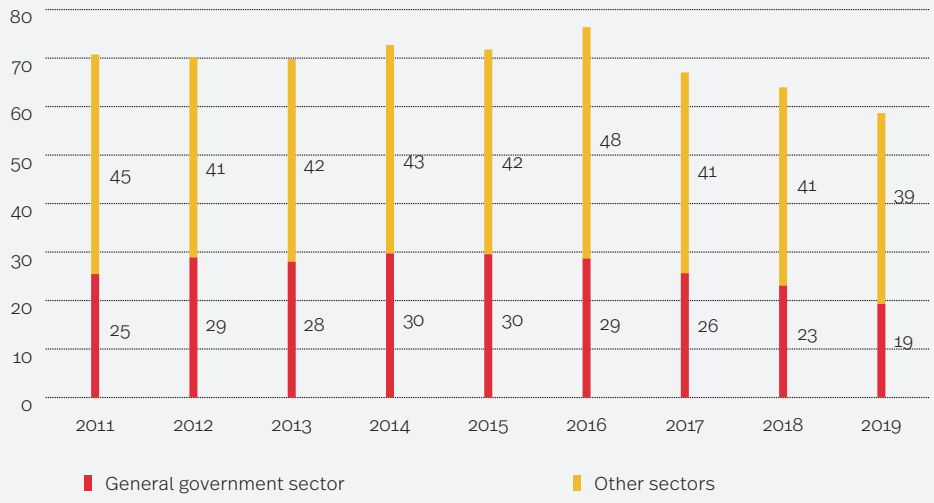
Table 2 presents measures already taken by countries (by 1 April 2020), according to data on the International Monetary Fund website (IMF, 2020b). The IMF divided the measures proposed into five major categories – those related to fiscal policy (various benefits, additional spending, allowances), interest rate cuts, other monetary policy tools (liquidity policies, reserve requirements for banks), macro-finance (including debt relief) and trade balance (exchange rate interventions).

The Polish economy compared to the rest of the world

Before the outbreak of the epidemic, the economic situation in Poland in 2020 was projected to be relatively good, though worse than in previous years. In its January 2020 forecast, the European Commission assumed a mild slowdown of economic growth in Poland – from 4.9 per cent, 5.1 per cent and 4.0 per cent in 2017–2019 respectively to 3.3 per cent in 2020 and 2021. However, the scale of this slowdown was not supposed to be larger than in other EU Member States; economic growth rates of over 3 per cent were only projected for five EU Member States (GUS, 2020a; European Commission, 2020a). Poland was primarily distinguished by the very favourable situation on its labour market. According to Poland's labour force survey (*Badanie Aktywności Ekonomicznej Ludności*), in the 4th quarter of 2019, just before the outbreak of the epidemic, the unemployment rate was 2.9 per cent, which means that for the first time in history it dropped below 3 per cent (GUS, 2020b).

Prior to the epidemic outbreak, the macroeconomic stability of the Polish economy was considered exceptionally high. In its monitoring conducted since 2012, the European Commission had never found any need for an additional procedure (the so-called in-depth review) in connection with macroeconomic imbalances in Poland. It is one of just seven EU Member States

↘ Chart 2. Gross foreign debt in Poland in 2011-2019 (as a percentage of GDP)



Source: prepared by the PEI based on GUS and NBP data.

↘ Table 3. Macroeconomic imbalance monitoring indicators in Poland – European Commission report (December 2019)

Specification	Indicator	Thresholds	Poland's score	Does Poland meet the criterion?
External imbalances	Current account balance, 3-year average (per cent of GDP)	-4/6	-0.5	YES
	Net international investment position (per cent of GDP)	-35	-55.8	NO
	Real effective exchange rate, 3-year change (per cent)	±11	0.1	YES
	Export market share of world exports, 5-year change (per cent)	-6	25.8	YES
	Unit labour costs, 3-year change (per cent)	12	8.1	YES
Internal imbalances	House price index, 3-year change (per cent)	6	4.9	YES
	Private sector credit flow (per cent of GDP)	14	3.4	YES
	Private sector debt (per cent of GDP)	133	76.1	YES
	General government gross debt (per cent of GDP)	60	48.9	YES
	Unemployment rate, 3-year average (per cent)	10	5.0	YES
	Total financial sector liabilities, y/y (per cent)	16.5	3.0	YES
Employment indicators	Activity rate, 3-year change (pp)	-0.2 pp	2.0 pps	YES
	Long-term unemployment rate, 3-year change (pp)	0.5 pp	-2.0 pps	YES
	Youth unemployment rate, 3-year change (pp)	2 pps	-9.1 pps	YES

Source: European Commission (2019).

that have not been subject to the process. In the most recent edition of the macroeconomic imbalance monitoring report, from December 2019, 24 of the 28 EU Member States were found to have exceeded the thresholds in two out of the fourteen of the indicators covered. Poland was among the Member States with only one value beyond the relevant indicative threshold (Table 3), along with Austria, Luxembourg and Malta. The monitoring report highlights aspects of the Polish economy such as contained external vulnerabilities, a well-capitalised, liquid and profitable banking sector and a favourable labour market situation (European Commission, 2019).

In the past few years, there has been a significant reduction in Poland's foreign debt – both private and public. This is relevant because research points to significant threats related to excessive foreign debt in emergencies. External debt tends to be a less stable source of financing than domestic debt (due to faster outflows in crisis situations) and involves exchange rate risk (Eichengreen, Hausmann, Panizza, 2003; Rajan, 2012; Sawulski, 2016). Gross foreign debt in the Polish economy dropped from 76 per cent of GDP in 2016 to 59 per cent in 2019, while government debt fell from 29 per cent of GDP to 19 per cent respectively (Chart 2). Foreign investors' share in Polish public debt decreased from 57 per cent at the end of 2015 to 41 per cent at the end of 2019 (Ministry of Finance, 2020). The general government debt-to-GDP ratio declined – from 54 per cent to 46 per cent in 2016–2019, offering more room for manoeuvre when applying fiscal stimuli in response to the crisis caused by the COVID-19 epidemic (Ministry of Finance, 2020).

Experiences from prior crises

The coronavirus pandemic continues; it is too early to speak of its overall development or the scale of consequences. However, governments around the world cannot wait for the final data forming a complete picture; instead, they must act quickly amid extreme uncertainty. In these situations, decisions tend to be made based on lessons from history. This chapter outlines previous major crises and how fought their consequences. Together, they form a set of guidelines that – combined with present-day knowledge and technology – can help make the right decisions. This chapter covers the Spanish flu, the more recent SARS epidemic and the Fukushima nuclear disaster, as well as the financial crisis of 2007–2009 and the economic crisis in Europe in 2010–2012 that followed. The last two crises – although very different from the current situation – are the most frequent points of reference in the public discourse today. We believe that it is worth considering these events critically and drawing constructive conclusions.

The Spanish flu

The development and scale of the epidemic

The Great Influenza Epidemic, also referred to as the 'Spanish flu', broke out in 1918 and its waves continued until 1920. The source of the virus remains unclear; most likely, there were two sites of origin – one in China, the other in the US. Its spread in Europe was made easier by its outbreak in the last year of World War I. 50 per cent of the world's population may have been infected, with 25 per cent developing serious clinical infections (Hsieh et al., 2006). Due to problems with the availability of reliable data, any estimates about the number of infections are largely speculative. Information on mortality is slightly more reliable: the pandemic claimed 40 to 50 million lives, approximately 2 per cent of the world's population at the time (Barro, Ursúa, Weng, 2020). In contrast to the COVID-19 epidemic, the 'Spanish flu' was particularly

fatal among young adults without coexisting conditions and less dangerous to the elderly (Hsieh et al., 2006). The second wave of that epidemic was the strongest; in the US, which recorded as many as 675,000 deaths in 1918, the most lives were lost in the second wave in the autumn.

The epidemic's economic impact

The 'Spanish flu' epidemic has been frequently examined by scholars, but rarely in terms of its economic consequences (Karlsson, Nilsson, Pichler, 2014). This is attributable to the lack of systematic data allowing reliable analysis and the simultaneous economic impact of World War I.

Economically, the epidemic primarily represented a strong supply shock in the labour market accompanied by a minor impact on physical capital in the economy (in contrast to shocks caused by wars or natural disasters).

There are very few analyses addressing the economic consequences of the pandemic. In Sweden, which declared neutrality during World War I and therefore did not suffer its full negative

consequences (other than trade losses due to the naval blockade or the revolutions in Russia and Germany), the Spanish flu claimed around 1 per cent of the population. Based on administrative data, researchers found two consequences of the epidemic: a significant and permanent increase in poverty rates and a marked decline in capital returns. However, the analyses did not reveal a discernible negative impact on earnings (Karlsson, Nilsson, Pichler, 2014).

In an attempt to separate the effects of the Spanish flu and of World War I, NBER researchers found that the number of deaths caused by the pandemic, corresponding to 2.0 per cent of the world's population, was accompanied by a drop in GDP *per capita* of 6 per cent. They also showed the pandemic's relationship with increased inflation (the inflation rate being 20 pps higher with a flu death rate of 2 per cent) and a fall in private consumption (by 8 per cent). The authors argue that the parameters are comparable to those observed during the recession of 2008–2009 (Barro, Ursúa, Weng, 2020).

Detailed data for the US has been examined by a team of researchers from the Fed and MIT. Their analyses suggest that high mortality is associated with a significant decline in manufacturing employment and output. According to their estimates, the latter dropped by 18 per cent, not only because of the large number of deaths, but also due to major production disruptions indirectly caused by the epidemic. Importantly, those negative effects persisted in certain states for 3-4 years after the epidemic (Correia, Luck, Verner, 2020). The data suggest that the epidemic depressed demand for durable goods; for example, high mortality states showed significant decreases in the stock of registered motor vehicles in the following years.

One of the study's key conclusions in the current pandemic situation is that US cities that implemented more rapid and forceful non-pharmaceutical interventions (lockdown, social distancing) performed better economically after the epidemic. For example, a one standard deviation increase in the intensity (speed of introduction) of constraints pushes up manufacturing output by 5 per cent after the epidemic. Similarly, a one standard deviation increase in the intensity (duration) of restrictions raises that indicator by 7 per cent. The authors conclude that while an epidemic seriously depresses economic activity, rapid and aggressive measures reduce the losses.

Why is it relevant today?

- → comparable crisis sources – the epidemic is an external shock associated with high mortality,
- → the pandemic spread almost globally,
- → the effectiveness of strategies based on lockdown measures is confirmed by studies of US cities.

Why is the lesson from the crisis mismatched with today's situation?

- → the Spanish flu broke out in economies undergoing an industrial revolution, with a much lower share of services and a greater role played by agriculture,
- → the Spanish flu mostly claimed young adults, which had two economic implications: lower labour supply and – in the social model of that time – many people without means of subsistence (widows, orphans). The current epidemic is characterised by high mortality among seniors,
- → in many countries, the consequences of the Spanish flu coincided with the effects of World War I (destroyed physical assets, collapsed institutions) or revolution,
- → today's globalised economy has many more internal linkages, with various important relationships that did not exist 100 years ago.

SARS

The epidemic of SARS, severe acute respiratory syndrome caused by a coronavirus – as in the case of the COVID-19 disease – affected 29 countries, mostly in Asia, and reached its peak from March to May 2003. It resulted in a total of 8,096 infections and 774 deaths (Ahmad, Krumkamp, Reintjes, 2009). According to the available data, SARS was both more contagious (with a higher basic reproduction number – on average, one infected person transmits the virus to more people) and deadlier than COVID-19 (Galeotti, Surico, 2020). Its estimated economic effects range from 0.5 per cent to 1 per cent of annual GDP in the most affected countries (China, Hong Kong, Singapore, Taiwan). The key channels of the epidemic's spill-over into the economy included tourism (international passenger arrivals plunged by as much as 80 per cent), hospitality, transportation and retail trade (falling by 50 per cent in Hong Kong in April 2003) (Noy, Shields, 2019). Those developments had measurable effects on GDP in Hong Kong (-0.9 per cent in the 2nd quarter of 2003), Taiwan (-1.15 per cent in the 2nd quarter of 2003) and Singapore (-0.3 per cent in the 2nd quarter of 2003), but only temporarily (UOB, 2020a). Most economic indicators returned to normal by the end of the year, including indicators showing the impact of the crisis the soonest and the sharpest, such as retail sales, tourism, the unemployment rate (UOB, 2020a). Economies' quick rebound after SARS partly resulted from the relatively limited spread of the epidemic and uninterrupted supply chains. It allowed consumption to recover rapidly after the end of the epidemic in the second half of 2003.

To prevent the crisis from spreading, authorities temporarily closed schools and public institutions (Beijing, Hong Kong, Singapore, Toronto), imposed quarantine on people suspected of having contact with infected people, and introduced checks and restrictions on international traffic (Ahmad, Krumkamp, Reintjes, 2009).

To mitigate the economic effects of the epidemic and the shut-downs on certain economic activities, the virus-affected countries introduced stimulus packages targeting specific sectors that had experienced a loss in revenue (reduced rent for hotels or lower taxes for tourism industries), helping maintain employment (e.g. subsidising staff training), or improving the liquidity of firms on and enhancing the long-term potential of the economy (public works and investments). The value of these stimulus packages ranged from 0.4 per cent to 1.7 per cent of GDP (UOB, 2020a).

The current fight against COVID-19 shows that countries that experienced SARS responded with quick and often radical lockdowns and targeted support measures providing financial relief and greater liquidity to the most-affected sectors.

Why is it relevant today?

- → the crisis caused by the epidemic economic spill-overs similar to those observed for COVID-19,
- → no need for structural economic adjustments resulted in fast recovery of demand and GDP,
- → as in the case of COVID-19, SARS originated in China. The country's central role in global production chains led to a rapid spread of the virus and of its consequences.

Why is the lesson from the crisis mismatched with today's situation?

- → a much smaller scale of economic disruptions,
- → a different (less developed) network of international linkages.

The financial crisis of 2007–2009

The financial and economic crisis of 2007–2009 was the deepest economic crisis since the 'Great Depression' of the 1930s. Its immediate cause was the burst of a sub-prime mortgage-based speculative bubble in the US, which led to a lack of liquidity in the financial sector, resulting in a bank lending freeze and the threat of banks going bankrupt. Large financial institutions appeared to be 'too big to fail', which forced an unprecedented public intervention that involved acquiring firms in difficulty. Through closely related financial systems using complex financial instruments with incorrectly-assessed risks, the crisis affected other countries' economies, pushing them into a recession, increasing public debt and resulting in a subsequent sovereign debt crisis in Europe (described further in this report). The scale and duration of the crisis challenged widely-held economic assumptions, leading to the implementation of non-standard monetary policy measures and a wide range of fiscal policy tools. Global GDP contracted by more than 1.5 per cent for the first time from the early 1960s[1]. In the US, the recession lasted for 18 months (from December 2007 to June 2009; Liang, McConnell, Swagel, 2018), real GDP declined by 4.3 per cent and did not recover to the pre-crisis level until the third quarter of 2011. The downturn in the euro area continued for 15 months (from the 2nd quarter of 2008 to the 2nd quarter of 2009).

The crisis forced authorities to re-evaluate their approaches to economic policy and challenge certain assumptions adopted by policymakers. First and foremost, they again favoured fiscal policy tools, including counter-cyclical government policies, with a significant focus on the regulatory framework for the financial sector where the absence of sufficient requirements had contributed to the crisis. To a certain extent, the crisis led to a revision of the pre-crisis economic doctrine based on the so-called Washington Consensus and leading economists and advisors to governments and international institutions began to change their approaches and views (Blanchard, Dell'Ariccia, Mauro, 2010).

During the financial crisis, a major role was also played by central banks, broadly providing liquidity to the private sector and actively supporting yields on government bonds. They used not only interest rate cuts, but also non-standard tools such as purchasing government bonds (through quantitative easing, QE). An extended list of tools employed by central banks can be seen in the current crisis: QE has been applied nearly from day one.

Why is it relevant today?

- → the crisis affected the whole global economy,
- → authorities used a wide range of monetary policy tools, including non-standard tools, to support liquidity and increase aggregate demand,
- → a major role was played by fiscal policy, previously treated as a secondary toolbox.

Why is the lesson from the crisis mismatched with today's situation?

- → the crisis had internal (endogenous) origins, primarily the lack of an appropriate regulatory framework for financial markets,
- → different channels of crisis transmission to individual countries,
- → it was mostly limited to the economic sphere.

[1] The World Bank provides no data before 1961.

The eurozone crisis of 2009–2012

In the eurozone, the financial crisis overlapped with the sovereign debt crisis. The latter had various causes, mainly structural differences between economies sharing the same functional currency, the lack of political (not only market-based) redistribution of budget surpluses – which deepened the division into surplus and deficit countries – or differences in government bond prices (spreads) between countries, insignificant before the outbreak of the global financial crisis and considerable at its onset. Given the possibility of rapid flows of capital not subject to exchange rate risk, the factors combined outline the fundamental causes of the sovereign debt crisis.

According to Eurostat data, some countries also experienced a surge in unemployment – to over 25 per cent in Spain 2013. Youth unemployment in Spain and Greece exceeded 50 per cent. Sovereign debt in Greece went up from around 100 per cent of GDP in 2007 to approximately 180 per cent in 2014, from around 100 per cent to 135 per cent in Italy, and from 36 per cent to 100 per cent of GDP in Spain. At risk of insolvency, Greece, Cyprus, Ireland, Portugal and Spain needed to seek financial aid from the European Commission, the ECB and the IMF in the form of assistance programmes (that for Spain only targeted banks, with no support for the central budget). As assessed by many commentators, the austerity policy proposed to cope with the European sovereign debt crisis – leading to cuts in social protection schemes and public services – further aggravated the euro area countries' economic weaknesses. The eurozone experienced another downturn in 2012 (the double-dip recession).

To maintain the single currency, the ECB took various measures to provide banks with liquidity and tried to reduce bond yields, particularly in southern Europe. During the period in question, the ECB did not pursue a policy of QE such as that conducted by the US Fed, but its long-term refinancing operations (LTRO) went beyond the standard set of monetary policy tools. The ECB authorities also declared their readiness to act: after Mario Draghi's famous speech in 2012, in which said he is ready to do 'whatever it takes' to preserve the euro, markets responded by revaluing government bonds in the belief that the risk of insolvency had fallen significantly (Nelson, 2017).

The crisis also stimulated the introduction of institutional changes in the euro area. Among other things, it resulted in the creation of the European Stability Mechanism (ESM), for providing funding for economies experiencing serious difficulties in the financial sector. The new institution's maximum lending capacity was EUR 500 billion, with the granting of loans subject to specific conditions and willingness to implement economic reform programmes (www10).

Why is it relevant today?

- → the ECB began to use non-standard monetary policy tools,
- → rapid and coordinated efforts by individual governments and the ECB were key,
- → a major role was played by communication, e.g. clear political declarations (Mario Draghi's 'whatever it takes'),
- → it gave rise to concepts and solutions relating to the mutualisation of eurozone sovereign debt,
- → at present, some EU Member States are characterised by very high debt-to-GDP ratios – particularly Italy (135 per cent), France (98.4 per cent), Spain (97.6 per

cent), much higher than at the beginning of the financial crisis,
- → the austerity policy promoted slowed down economic growth,
- → Greece's deflationary policy contributed to social unrest and radical change in the political scene,
- → the European Stability Mechanism was created as the main mechanism for restoring eurozone economies' stability.

Why is the lesson from the crisis mismatched with today's situation?

- → the crisis was caused by macroeconomic imbalances within the euro area (which remain),
- → the unresolved issues relating to macroeconomic imbalances may cause another sovereign debt crisis in the euro area, especially in Italy,
- → different channels of crisis transmission to individual countries.

Fukushima

In March 2011, a devastating earthquake occurred in the Japanese region of Tōhoku. It affected the Fukushima Prefecture, the location of the famous Fukushima I nuclear power plant station, where the resulting tsunami caused a major accident. Both the tsunami – which claimed thousands of lives in Japan and destroyed hundreds of thousands of people's property – and the accident at the power plant (echoing the Chernobyl nuclear disaster) significantly affected the Japanese economy and society[2].

The economic response to the crisis was multidimensional. The tools used by the Japanese authorities can be divided into three categories: (1) classic fiscal policy, (2) monetary policy and (3) development policy. Fiscal policy instruments comprised funds assigned to specific programmes aimed at restructuring destroyed infrastructure (additional appropriations of USD 24 billion in the budget for 2011) (Government of Japan, 2012), grants to local governments (USD 21 billion) or loans in response to the disaster (USD 12 billion). The amounts were significant as disaster-related damage to public (educational, public works or agricultural) facilities in the Fukushima Prefecture alone was estimated at around USD 5.5 billion (Fukushima, 2017).

Another dimension of government efforts involved monetary policy measures. These primarily included bond purchases by the Bank of Japan (BoJ), ioperations increasing money supply in the economy. The purchase of bonds worth USD 140 billion planned by the BoJ for 2012 (IMF, 2012) was supposed to be an introduction to the so-called Abenomics started by Prime Minister Abe and based on 'three arrows': expansionary monetary policy, fiscal consolidation and structural reforms. However, it seems that this element of Japanese government policies must be considered with reference to the global crisis of 2007–2009, rather than the Fukushima disaster and the tsunami that affected Japan in March 2011.

Why is it relevant today?

- → the crisis was caused by factors external to the economic structure,
- → the government's response incorporated development policies aiming to change the energy sector,

[2] As well as other countries; for example, it changed the perception of nuclear energy worldwide and discouraged some countries (such as Germany) from using it.

→ the consequences included concerns about invisible risks, such as soil and food contamination; a substantial part of the support was allocated to decontaminating the environment.

Why is the lesson from the crisis mismatched with today's situation?

→ limited social and economic consequences,
→ the response did not involve shutting down the economy, the crisis was limited in its reach.

Anti-crisis tools

This part of the report outlines selected tools used by governments in response to the previous crises.

Monetary policy tools

Both the financial crisis of 2007–2009 and the eurozone crisis concerned the financial sector to a significant degree. The former started in the financial sector; during the latter, the situation of banks was related to the European sovereign debt crisis. Concerns about the lack of solvency in individual countries were reflected in increased risks for banks holding government bonds (Eser et al., 2012).

One of the main measures adopted involved using monetary policy tools. Central banks – the FED, the ECB and other institutions – used classic instruments such as cutting interest rates, providing the market with liquidity and reducing the reserve requirements for banks. When these actions proved ineffective, the banks implemented large-scale non-standard solutions. Interest rate cuts ceased to be effective around zero (zero lower bound on interest rates) and central banks introduced QE, consisting in government bond purchases. Initially, this was done by the Fed and the Bank of England. The ECB did not introduce them until 2014, in response to continuing stagnation in the euro area. The ECB also deployed other instruments to provide the banking sector with liquidity, including long-term refinancing operations (LTRO) and bond purchases in the secondary market (Securities Market Programme), yet different from QE. SMP operations were 'sterilised'; the ECB took simultaneous measures reducing money supply in the market, keeping the overall money unaffected (Belke, 2010).

Furthermore, monetary policy's effectiveness hinged on decision-makers' communication efforts. In his famous speech in 2012, Draghi declared that the ECB would do 'whatever it takes' to preserve the euro. Supported by the launch of new tools by the ECB, his declaration is considered to have played a key role in calming Europe's financial markets, despite calls to dismantle the euro area (*European Solidarity Manifesto*, 2013). These could be expressed again during the current crisis if it spills over into public finance (Olsen, 2020).

Conclusions for combating the COVID-19 crisis

Short-term measures: ensuring liquidity in the banking sector and providing funds for loans to firms; preventive and indicative measures (e.g. bond purchase declarations) to reduce fluctuations in financial markets.

Medium-term measures: bond purchases by central banks to prevent sovereign debt crisis.

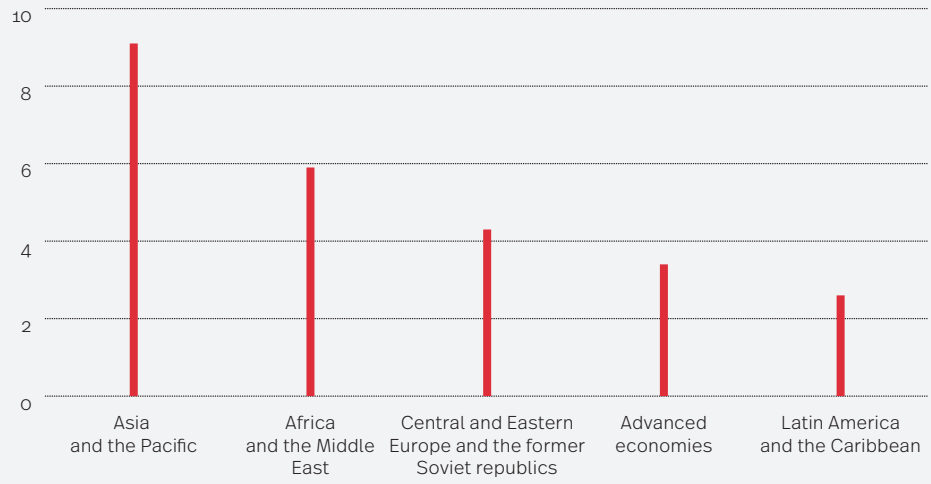
Long-term measures: the ECB tools may be insufficient in a situation where there are strong tensions in the euro area and maintaining the single currency as it is today requires far-reaching reforms (more integration). Alternatively, structural reforms or ever segmentation – for instance, into two currencies within the present euro area – could be necessary.

Fiscal policy tools – stimulus packages

Governments supported the economy through increased public spending or a reduced tax burden in response to most economic crises in the past. These measures gained in importance during and after the financial crisis of 2007–2009, when the effectiveness of these instruments was confirmed and Keynesian theory based on the public spending multiplier became relevant again (Romer, 2011).

The response to the crisis of 2007–2009 – when it spilled over from the financial sphere to the real economy – involved large-scale fiscal stimulus packages. In OECD countries, they amounted to a total of around 3.5 per cent of GDP, but individual countries spent much more, from 5.5 per cent of GDP in the US and Italy to 4 per cent in Germany to less than 2 per cent in the UK. Very large stimulus packages were introduced in Asian countries; in China, it represented 12.7 per cent of GDP and the average for Asia and the Pacific (excluding Japan and South Korea) was 9.1 per cent of GDP, with 3.4 per cent of GDP in developed countries (ILO, 2011).

↘ Chart 3. **Fiscal stimulus in response to the economic crisis of 2007-2009 by region (as a percentage of GDP)**



Source: prepared by the PEI based on: ILO (2011).

Those values exclude the scale of automatic fiscal adjustments (automatic stabilisers) such as unemployment benefits. The OECD (2009) distinguishes five components of fiscal packages launched – to a varying degree – by individual countries:

i. Saving banks and the financial system (described in the *Monetary policy tools* and *Bailouts* sub-chapters).
ii. Supporting businesses (guarantees, credit and loans, tax cuts).

iii. Sectoral support (measures targeting the automotive and construction sectors).
iv. Support for households (tax cuts, benefits, allowances).
v. Measures promoting innovation and long-term growth (described in the *Development policy* sub-chapter).

The crisis of 2007–2009 hit individual economies in different ways, which is why the proportions of specific components of stimulus packages varied. Advanced economies placed more emphasis on tax cuts, while developing countries focused on infrastructure investments (ILO, 2011).

Sample policies pursued:

→ (ii) new credit lines and guarantees were applied in countries such as Germany, which allocated EUR 100 million for that purpose in 2008; Sweden introduced export credit guarantees and Poland implemented a SME credit line (Saha, Weizsäcker, 2009);
→ (ii/iv) job retention support was introduced by Japan, South Korea, Canada and Germany. Concrete measures included wage subsidies (the government covered up to 90 per cent of wages for SMEs in Japan and 75 per cent in Korea) and extended possibilities for working time reductions (Canada, Germany), combined with wage subsidies for staff with reduced working hours (Germany). These measures proved to be very effective and there was only a minor increase in registered unemployment in Germany (0.7 pps in the 3rd quarter of 2009, compared to the 3rd quarter of 2008) (ILO, 2011; Eurostat);
→ (iii) in the summer of 2009, the US launched the *Cash for Clunkers* programme to help consumers replace their cars with more fuel-efficient vehicles. Nearly 700,000 people benefited (US Department of Transportation, 2009). Similar programmes on an even larger scale were introduced by Germany, China, France, Japan and Ireland;
→ (iii) Belgium introduced sector-specific VAT cuts announced in late 2008, e.g. for construction services (Saha, Weizsäcker, 2009);
→ (iv) tax cuts were used by most countries, to a varying extent. Measures for some taxes (PIT or VAT) aimed to boost demand, while corporate income tax cuts were supposed to help businesses survive and to prevent layoffs. In 2008, VAT rates were cut by the UK (by 2.5 pps) and Portugal (1 pp), but those changes were temporary. Personal income tax relief was also introduced by the US in the first and second fiscal packages (in 2008 and 2009 respectively).

Conclusions for combating the COVID-19 crisis

Short-term measures: in the short term, fiscal measures (phases II and III of the crisis) should aim to help maintain jobs and people who have lost their livelihood, which is directly related to liquidity assistance to firms, cuts in or temporary abolition of liabilities to public institutions, wage subsidies and appropriate social benefits.

Medium-term measures: tax cuts for specific sectors (in industries most affected by the crises, unlikely to compensate for lost sales – such as tourism or catering) or for wider groups (to increase aggregate demand). Fiscal stimulus will also be necessary to recover from the crisis (transition from phase IV to phase V).

Long-term measures: the phasing out of fiscal stimulus – economies will be able to grow in conditions of the new normal and governments will need to build financial cushions for the future. However, public expenditure may permanently exceed pre-crisis levels.

Fiscal policy tools – the consolidation of public finance

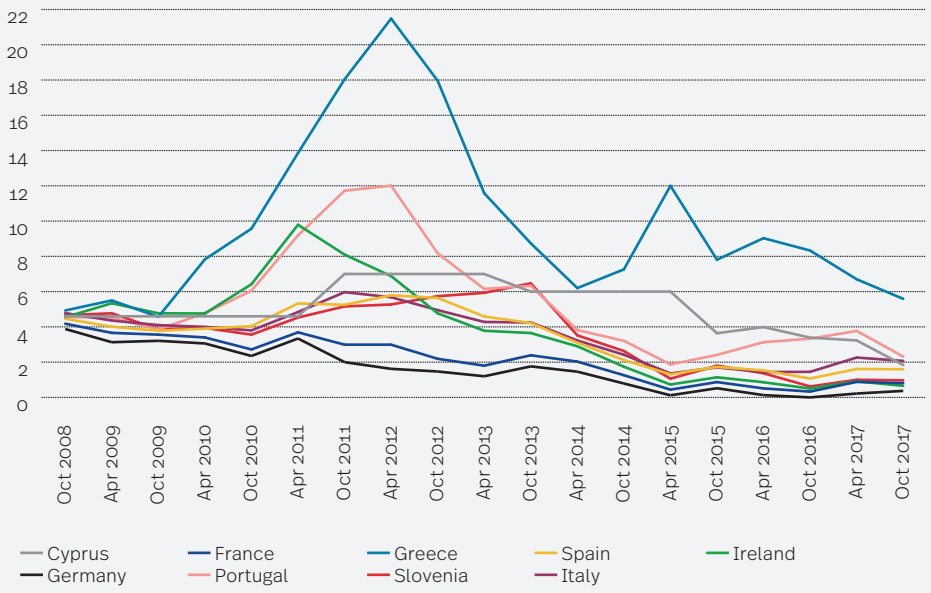
The financial crisis of 2007–2009 was followed by the public finance stability crisis in several EU Member States. Some countries implemented solutions stabilising public finance, mainly through a set of measures that aimed to cut spending and increase budget revenue.

The objective of interventions

The short-term objective of these fiscal interventions was to protect countries from rising foreign debt servicing costs and external borrowing difficulties, and thus from insolvency. The most at-risk countries included Portugal, Greece, Ireland, Spain, Cyprus and Italy. Changes in government bond yields in selected euro area countries in 2008–2017 are presented in Chart 4.

To achieve that goal, EU Member States made significant consolidation efforts. As estimated by the European Commission, in 2011–2013 spending cuts and tax increases together accounted for around 4 per cent of annual GDP in the eurozone (European Commission, 2012). Economists disagreed about fiscal consolidation policy's impact on economic growth. Voices pointing to the growth-boosting effects of containing deficit (aimed at stabilising expectations and improving economic sentiment), based on the approach proposed by Giavazzi, Pagano (1990), were offset by supporters of the Keynesian approach associating spending cut with contracted short-term demand and any possible benefits in the longer term only (Leigh

↘ Chart 4. **Government bond yields in selected euro area countries in 2008-2017 (as a percentage)**



Source: prepared by the PEI based on: ECB, http://sdw.ecb.europa.eu/browse.do?node=bbn4864 [accessed: 9.4.2020].

et al., 2010). As advocates of these solutions argued, the underlying cause of the crisis is the low productivity of the economy irrespective of any demand issues, which must be solved by structural reforms combined with greater public finance discipline and austerity (Feld et al., 2015). However, from the beginning, this solution was criticised by some economists, who argued that during recession demand should receive additional support through expansionary rather than restrictive fiscal policy.

Measures introduced

Various countries adopted similar sets of solutions, as summarised in Table 4.

Obviously, countries most frequently sought to contain public sector costs, which primarily meant reducing staffing costs (employment cuts or suspended recruitment, reduced or frozen salaries), but also lower spending on particular public policies, such as social welfare (more restrictive eligibility criteria, shorter payment periods and lower benefit amounts), defence and healthcare (lower spending). Several countries reformed their pension schemes by raising the retirement age, decreasing the highest benefits or partly suspending indexations. Another popular tool involved introducing or raising taxes on consumption or excise duties. Two countries only imposed property tax and one additionally taxed luxury goods. Certain countries intensified the selling of assets, such as shares in state-owned companies or land.

Policy effects

A few years after the crisis, the measures introduced can be evaluated in two ways. On the one hand, spending cuts appeared to be effective in achieving tactical, short-term objectives, reducing public debt service costs and pushing down the budget deficit. In Greece, the budget deficit in dropped in one year from 15.8 per cent in 2009 to 10.7 per cent in 2010. Italy's deficit declined by 4.8, 5.9 and 5.2 per cent of GDP in 2012, 2013 and 2014 respectively (Figari, Fiorio, 2015).

On the other hand, these measures hampered GDP growth, which hindered the lowering of debt-to-GDP ratios. Among the exceptions, Germany managed not only to reduce its debt, but also to generate growing surpluses from 2012. This gives the German government ample room for manoeuvre during the current crisis; the authorities said that they have unlimited possibilities to design a fiscal package to protect and late stimulate economic development after the lockdown. A decade ago, Sweden was in a similar situation. Having learnt its lessons from the crises of the 1990s, the country created budgetary reserves allowing it to spend more in an emergency, e.g. on unemployment benefit support. As a result, Sweden was one of just a few advanced economies to achieve relatively high economic growth rates after the previous financial crisis.

Except in rare cases, austerity policies have, at best, moderately positive and short-term results. In the long term, their effectiveness has been widely criticised. The hypothesis about the recessionary impact of budget cuts, especially in a situation of very low (the zero lower bound on) interest rates, seems to have been corroborated (Romer, 2011). Various researchers show that, In the medium and long term, these tools have a depressing rather than a stimulating influence on economic growth. In the short run, they aggravate recession; medium-term effects include hindering the introduction of new technology, slowing down economic transition. In these cases, labour tax increases appear to be the most unfavourable (Bianchi et al., 2019). Jordà and Taylor (2016) draw similar conclusions: A budger reduction of 1 per cent lowers GDP by 4 per cent over five years if implemented during a downturn. Just 1 per cent of GDP is lost during a boom.

↘ Table 4. Public finance consolidation measures adopted by EU Member States

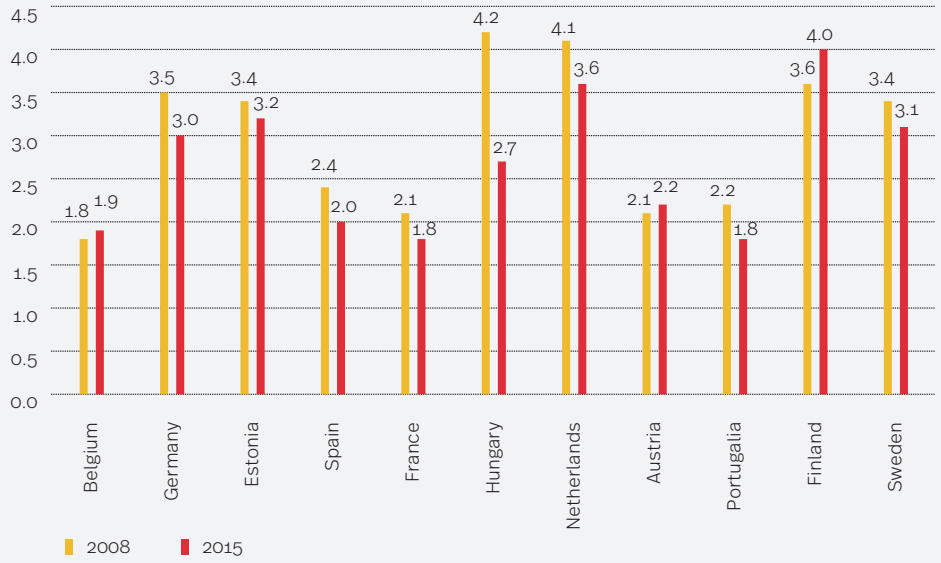
Measure	Austria	Belgium	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxembourg	Hungary	Malta	Netherlands	Poland	Portugal	Romania	Slovenia	Slovakia	Finland	Sweden	United Kingdom
Increased retirement age	●	●							●		●						●			●							
Reduced pensions								●	●	●		●					●					●					
Reduced social benefits					●	●		●	●		●	●					●			●		●					
Increased VAT							●							●			●			●					●		●
Increased excise duty							●										●								●		
Privatisation of assets							●		●			●								●							
Shorter unemployment periods					●																						
Cutting public sector costs	●					●	●	●	●	●		●									●	●	●				●
Taxes on capital											●			●													
Taxation of the wealthiest											●			●							●						
Income taxes		●							●	●		●		●													
Taxes on luxury goods, e.g. yachts									●																		
Increasing social security contributions																	●										
Property taxes									●			●															

Source: prepared by the PEI.

As pointed out by various authors, one of the reasons why these solutions are ineffective is the fact that they do not resolve any socio-economic issues; they merely mitigate their consequences. They fail to change society or the economy at the level of institutions and mechanisms, while adding other problems such as driving down the quality of the public administration, which is gradually deprived of funds.

In the aftermath of crisis, public spending on health declined or slowed in many European countries, both in absolute terms and as a share of government expenditure (Rechel, 2019; Thomson et al., 2015). To save money, they reduced the availability and quality of services, rather than making them more efficient (Antonanzas, 2013; Simou, Koutsogeorgou, 2014).

↘ Chart 5. **Funding of preventive care as a share of spending on health (as a percentage)**



Source: Rechel (2019).

Before the pressure on healthcare by the current pandemic, it was not possible to prepare in every way; for instance, it would have been pointless to keep too many beds at intensive care units or to stockpile ventilators. Nevertheless, for many countries, downward convergence has significantly reduced their room for manoeuvre when responding to COVID-19. This includes outflows of medical personnel seeking employment outside the system or abroad due to low pay.

Moreover, political commentators frequently argue that strict austerity policies in Europe led to the rise of populist movements or the Brexit campaign, among other things.

This raises the question: how do the measures above relate to the current situation?

Conclusions for combating the COVID-19 crisis

Short-term measures: a significant increase in government spending and budget deficits to save citizens' lives and health, provide them with social security (wage subsidies, higher benefits) and protect the economy.

Medium-term measures: preparing the public service system for a possible second wave of the epidemic. It may require substantial investment in healthcare and other services (e.g. fast-track digitalisation of various aspects of the functioning of the state).

Additional spending on measures helping to 'unfreeze' the economy, e.g. through targeted support for the most-affected industries and an active labour market policy.

These actions mean that governments will need to maintain high spending. Preventing a public finance crisis will involve increasing revenues (raising taxes for certain income groups) or reducing spending on selected items (targeted cuts in the groups least hit by the crisis).

Long-term measures: governments should not consider any public finance restructuring measures until this phase.

The crisis has revealed structural defects in several public service segments, insufficient spending on healthcare. One of the lessons of the European sovereign debt crisis is that economic growth must come first, before any cuts or broad restructuring of expenditure.

Moreover, obtaining additional revenue requires international cooperation and coordination to reform the international tax system. For example, the EU has financial reserves in the form of taxes lost to tax havens (Sawulski, 2020).

Bailouts

Another tool widely used in response to the global crisis of 2007–2009 was the possibility of bailouts, financial support from public funds for firms whose collapse could have been detrimental to the economy. Most of the assistance was granted to save financial institutions. In the US, that form of support was introduced as the so-called Target Asset Relief Program (TARP) in October 2008.

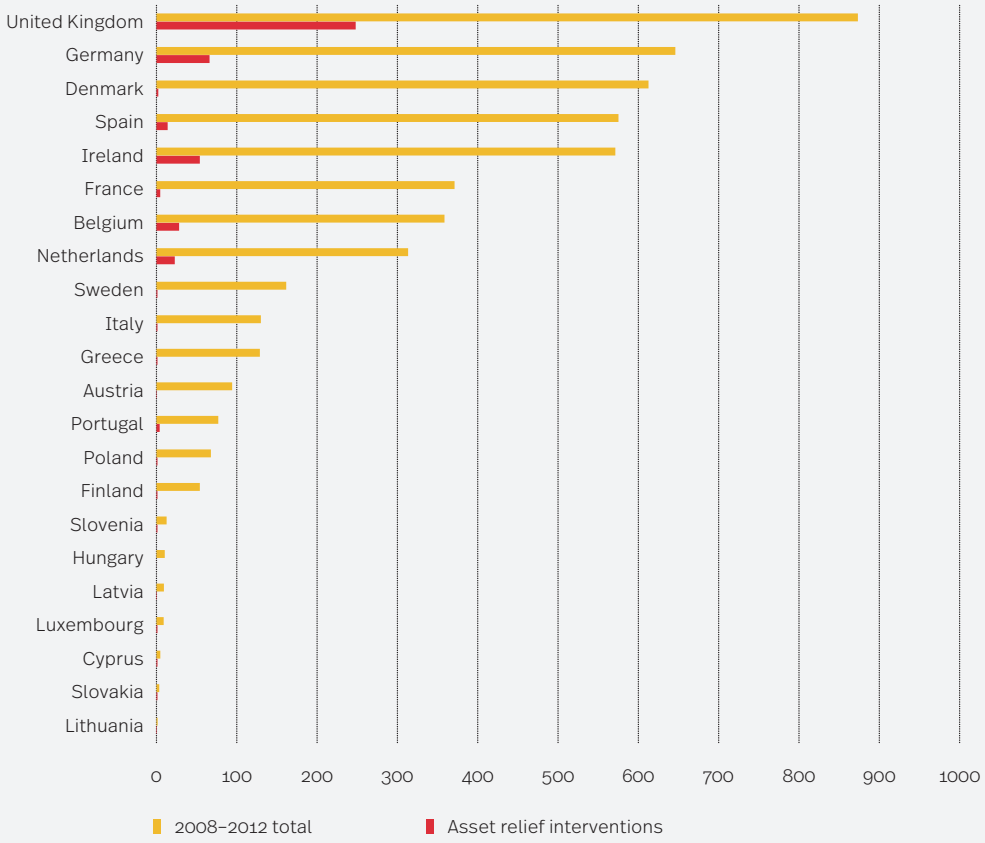
Initially, the TARP budget was USD 700 billion, but it was eventually reduced to USD 475 billion (Department of the Treasury, 2016a). The most significant bailouts included support for the American Insurance Group (nearly USD 70 billion), assistance to Citibank and the Bank of America as well as subsidies for the automotive industry, including two market leaders: General Motors and Chevrolet. It is also worth noting that a major share of the financial aid was recovered (Department of the Treasury, 2016b).

In Europe, bailouts on the largest scale were introduced by the UK. In 2007–2009, the government granted loans and provided capital to stabilise banks amounting to GBP 137 billion. Cash support and financial guarantees came to around GBP 1.2 trillion (Mor, 2018). In the period in question, the state took over a 100 per cent in the ownership and equity control of Northern Rock and Bradford & Bigley. At the peak of the intervention, it also acquired a controlling equity stake of 84 per cent in the Royal Bank of Scotland.

In Germany, financial aid was granted to institutions such as the mortgage bank Hypo Real Estate. At the same time, the state-owned development bank KfW (Kreditanstalt für Wiederaufbau) supported the liquidity of SMEs and assisted larger undertakings and institutions. It also granted direct support to IKB Deutsche Industriebank, increasing its stake.

In addition to these countries, significant funds for assisting financial institutions were approved by the governments of Denmark, Spain and Ireland (European Commission, 2012b).

↘ Chart 6. **Assistance to financial institutions in EU Member States (from 1 October 2008 to 1 October 2012, in EUR billion)**



Source: prepared by the PEI based on: European Commission (2012b).

A special situation was observed in Iceland, where banking sector assets were about nine times Iceland's GDP (Benediktsdóttir, Eggertsson, Þórarinsson, 2018). Public support was granted to smaller savings banks, but due to the size of the sector and the rejection of repaying loan guarantees to British and Dutch governments in a referendum, the largest banks were ultimately put into liquidation and subsequently nationalised (Reuters, 2015).

Importantly, during the crisis of 2007–2009 bailouts were primarily used to support financial institutions regarded as 'too big to fail'. This includes firms or institutions whose sudden

collapse could have major and far-reaching repercussions in the whole economy. In the case of the financial crisis of 2007–2009, the group mostly comprised the largest financial institutions providing credit flows to the economy and ensuring smooth trading.

During the ongoing coronavirus crisis, bailouts are also cited as a potentially useful tool. French Minister of Economy and Finance Bruno Le Maire has spoken of saving national champions (Rudzki, 2020). Support for companies such as Boeing has also been pledged by Donald Trump (Isidore, 2020). Germany's Federal Minister for Economic Affairs and Energy Peter Altmaier has mentioned nationalisation as a tool protecting against the acquisition of strategic firms, as has the Italian government. All these declarations and their context point to an entirely different purpose for bailouts. It is no longer about maintaining the functioning of the system and reducing losses; the priority is to protect firms of major importance to the real economy and to increase the role of the state in controlling them. This may suggest not just cosmetic changes in crisis management strategies, but also a shift in the political economy paradigm. Perhaps the liberal economic interpretation is being increasingly superseded by an economic interpretation of national interest (*raison d'État*).

Conclusions for combating the COVID-19 crisis

Short- and medium-term measures: bailouts of key firms, including those providing necessary public services or companies of specific importance to the economy. Once the economy 'unfreezes', these firms are likely to recover and be resold by the State Treasury. In contrast to the financial crisis, bailouts would not cover financial market undertakings; this approach is recommended by institutions such as the International Monetary Fund (IMF, 2020c).

Long-term measures: the resale of firms previously acquired by the state.

The preparation of national and EU lists of strategic sectors where the output of or shareholding by foreign-owned entities does not exceed 50 per cent.

Development policy

Governments often incorporate development policy into measures taken during crises. In particular, these efforts are made where the economy is hit by a demand shock (investments aim to maintain purchasing power and boost demand in the economy) or where the shock is largely concentrated locally or in a single sector.

These interventions aim to improve long-term economic conditions and increase production capacity. At the same time, this kind of crisis can be used to accelerate structural changes through investment in green energy, environmentally friendly transport, digitisation, etc. During the economic crisis of 2007–2009, ten OECD countries made public investments exceeding 0.5 per cent of GDP (the top performers were Australia, with 2.6 per cent of GDP, and Poland, 1.3 per cent of GDP), five members invested no public funds and two countries (Ireland and Iceland) needed to cut their investment programmes dramatically (OECD, 2009).

The countries examined by the OECD distributed their structural investment appropriations between infrastructure, R&D projects and innovation, education and green technologies. Australia, New Zealand, the US and Spain invested in transport infrastructure. Canada invested in the construction of schools, while Australia and Chile launched initiatives to improve the quality of healthcare.

Many countries financed ICT, infrastructure development (broadband and backbone networks, Internet access in rural areas) or sector-specific solutions (the digitisation of health records in the US and Canada, fostering e-administration in Norway or developing smart transport infrastructure in Japan). Expenditure on building networks amounted to USD 7.2 billion in the US, USD 33.4 billion in Australia and several hundred million dollars in Germany, Finland and Canada (OECD, 2009).

For example, the Fukushima nuclear disaster served as a stimulus to introduce structural changes in energy policy.

The objectives of interventions

In an immediate response to the accident, development policy measures were taken in three broad areas: (1) restoring pre-accident conditions in local agriculture, fishery and tourism; (2) renewable energy development and production and (3) support for the recovery of SMEs (Zhang et al., 2019). The case of renewable energy is of particular interest.

Right after the accident, nuclear energy became increasingly unpopular among the Japanese population. Power plant accidents triggered the radical change in energy generation and investments needed to develop new technologies.

Effects

Before the events of 2011, 27 per cent of Japan's energy demand was satisfied by nuclear power stations (International Energy Agency, 2017). The share of renewable energy was around 10 per cent. In 2018, the proportion of nuclear energy was 6 per cent and that of renewable energy 19 per cent (based on International Energy Agency data).

In 2014, the Fukushima Prefecture authorities announced that they want renewable energy sources to satisfy 40 per cent of energy demand by 2020, two-thirds by 2030 and 100 per cent by 2040 (Johnston, 2018). As early as 2017, energy from renewable sources met 28 per cent of demand.

Conclusions for combating the COVID-19 crisis

Short-term measures: development policy brings the best results in the long term, but the country's strategic development goals must already be considered during early anti-crisis efforts. Protecting essential industries and firms from excessive damage (layoffs and bankruptcy) will make it much easier to pursue medium- and long-term policies.

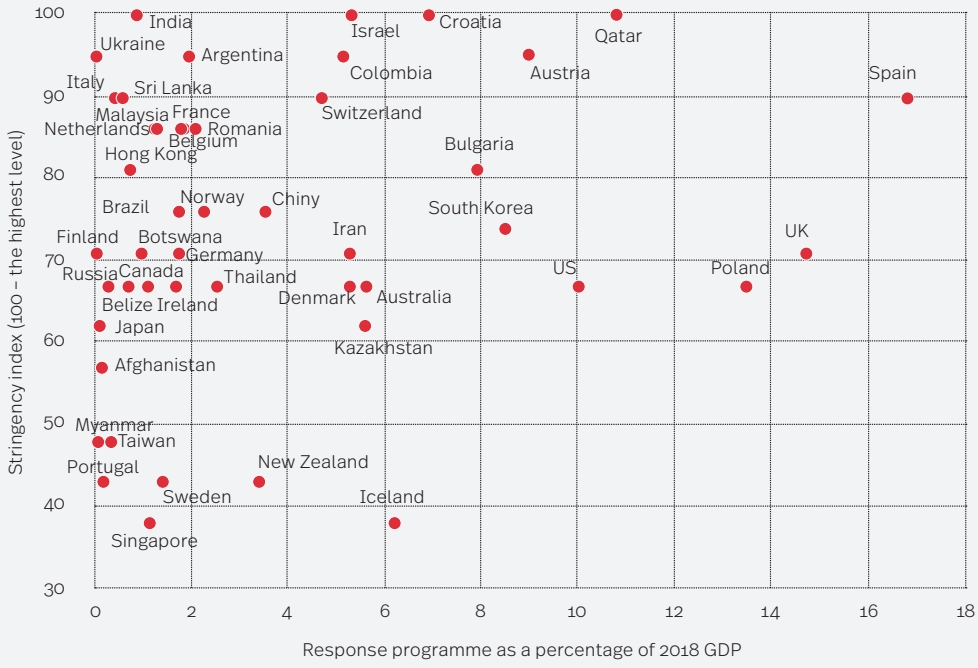
Medium-term measures: phase III and (especially) phase IV must have clear development priorities and directions for further action; it will allow easier transition from phase IV to phase V and faster implementation of long-term measures.

Long-term measures: when entering the new normal (phase V), the country must have designed its development strategy and clearly stated its priorities, both in public service investment and economic growth. Problems with the supply of masks, various substances and medicines should serve as an impulse to develop and secure the production of goods of strategic importance to public health. At the same time, the challenge of switching to e-learning in the education system and the interruption of studies in many countries may stimulate investments in that area, considering its major importance to long-term economic growth. Another field for development policy should be components of the green economy, as well as the implementation and creation of new technologies. In addition to stimulating the economy, development policy has a role to play in outlining and identifying economic sectors fundamental to development. Relatively large, well-organised public investments may encourage private investment projects, too.

Early responses to the COVID pandemic

By the time of this report was completed, the pandemic in China, South Korea and Taiwan seemed to be under control, but was entering the decisive phase in Europe and America, and had started to develop in Africa. More countries were responding to the emerging economic crisis (Hale et al., 2020; IMF, 2020b). This chapter discusses some of the measures taken between January and March 2020. A separate sub-chapter looks at the countries in the Far East that were hit by the epidemic first but were still better prepared due to earlier developments of a similar nature.

↘ Chart 7. **Response packages by country and the COVID-19 government response stringency index**



Note: the package amounts include not only fiscal policy tools (presented later), but also other policy instruments.
Source: prepared by the PEI based on data from: Hale et al. (2020); World Bank (2019).

The rapid spread of the pandemic and the characteristics of the new disease (e.g. high rates of infected people requiring hospitalisation, high mortality, especially among the elderly) have forced many governments to impose radical lockdowns on their economies. Without these actions, healthcare systems might not be able to handle a surge in the number of infections, causing the number of deaths to sky-rocket. This led to restrictions on social interaction (indispensable in catering, culture, sports and various other service industries), restrictions on movement and travel (the basis for tourism and transport), shop closures (restricted retail). Economic shutdowns have been combined with the closure of schools and nurseries, forcing many workers to focus on childcare. Although necessary to protect citizens' health, these measures may result in bankruptcies, increased unemployment and the crisis spreading to various sectors and the whole economy. At the same time, the financial problems of people who lose their jobs smother demand in industries not directly hit by the restrictions. Businesses' financial difficulties also result in the suspension of invoice and loan payments, which is likely to lead to payment backlogs and a burden on the financial sector.

Economists from the University of Oxford attempted to conduct a comprehensive analysis of economic schemes introduced in March 2020 (Hale et al., 2020). They compared programme size (as a percentage of GDP) with the scope of restrictions on the economy. Their analysis was based on a composite index of various government restrictions and responses, including: closure of schools and universities, closure of workplaces, closure of public transport, restrictions on internal movement and international travel, cancelling public events, public information campaigns, special fiscal and monetary policy measures, and additional spending on healthcare and vaccine development.

The Far East countries

China, the country first hit by the new coronavirus, concentrated its policy responses on providing firms with liquidity (Huang et al., 2020):

- the Chinese central bank (PBC) facilitated access to borrowed funds using conventional instruments, including increased availability of loans and reduced reserve requirements for commercial banks, but without changing its interest rates;
- the Chinese government introduced SME support instruments such as reduced interest rates on loans, debt roll-overs, loan maturity extensions and additional credit lines for resuming production;
- in addition, the authorities in some of China's regions introduced measures aimed at stabilising employment and supporting SMEs in the form of the remission of liabilities and social security contributions;
- sector-specific assistance – support for businesses manufacturing equipment or offering services relating to the fight against the virus.

After learning their lessons from the SARS epidemic, some countries in the Far East have used measures that are less aggressive to the economy to contain the virus and to isolate potentially infectious people. South Korea and Taiwan have been particularly successful. Meanwhile, the

governments of Japan, Malaysia, Taiwan and Korea have placed considerable emphasis on supporting the economic sectors most hit by the crisis (tourism, catering, transport).

Box 1. Measures adopted by Malaysia in response to the economic crisis

A particularly interesting case is that of Malaysia (UOB, 2020b), where the government programme included measures such as:

- a 15 per cent discount in electricity bills for the tourism industry, shopping centres, exhibition and conference centres;
- exemption from service tax for hotels;
- one-off payment to taxi drivers, tourist bus drivers, tourist guides and registered trishaw drivers;
- the possibility of a double deduction on expenses incurred on approved tourism-related training; grants to human resource development funds for businesses;
- subsidies for digital skills and highly-skilled courses for around 100,000 people;
- daily training allowances for other types of courses and increased claimable training costs; relaxed eligibility criteria for retrenched workers;
- support for the agricultural sector to increase production and food storage capacity;
- grants to businesses to promote online sales of their products;
- the development of e-commerce platforms based on rural Internet centres;
- additional low-interest funds for SME automation and digitisation;
- reduced import duties and VAT on the purchase of machinery for port operators;
- extended deadlines for tax payments;
- tax relief on expenditure related to domestic tourism;
- domestic tourism vouchers;
- reduced Employees Provident Fund contributions (higher net earnings).

The Malaysian economic support programme prioritises measures promoting business digitalisation, which increases resilience to similar crises in the future, as well as to green transition. Every crisis leads to new economic and political principles and rules, offering an opportunity to shape reality through public assistance programmes. Based on this assumption, the Malaysian government is trying to reduce CO_2 emissions and increase energy efficiency.

The rest of the world

As in the case of China, the most frequent measures include:

- liquidity support for companies in the form of the credit lines on preferential terms or

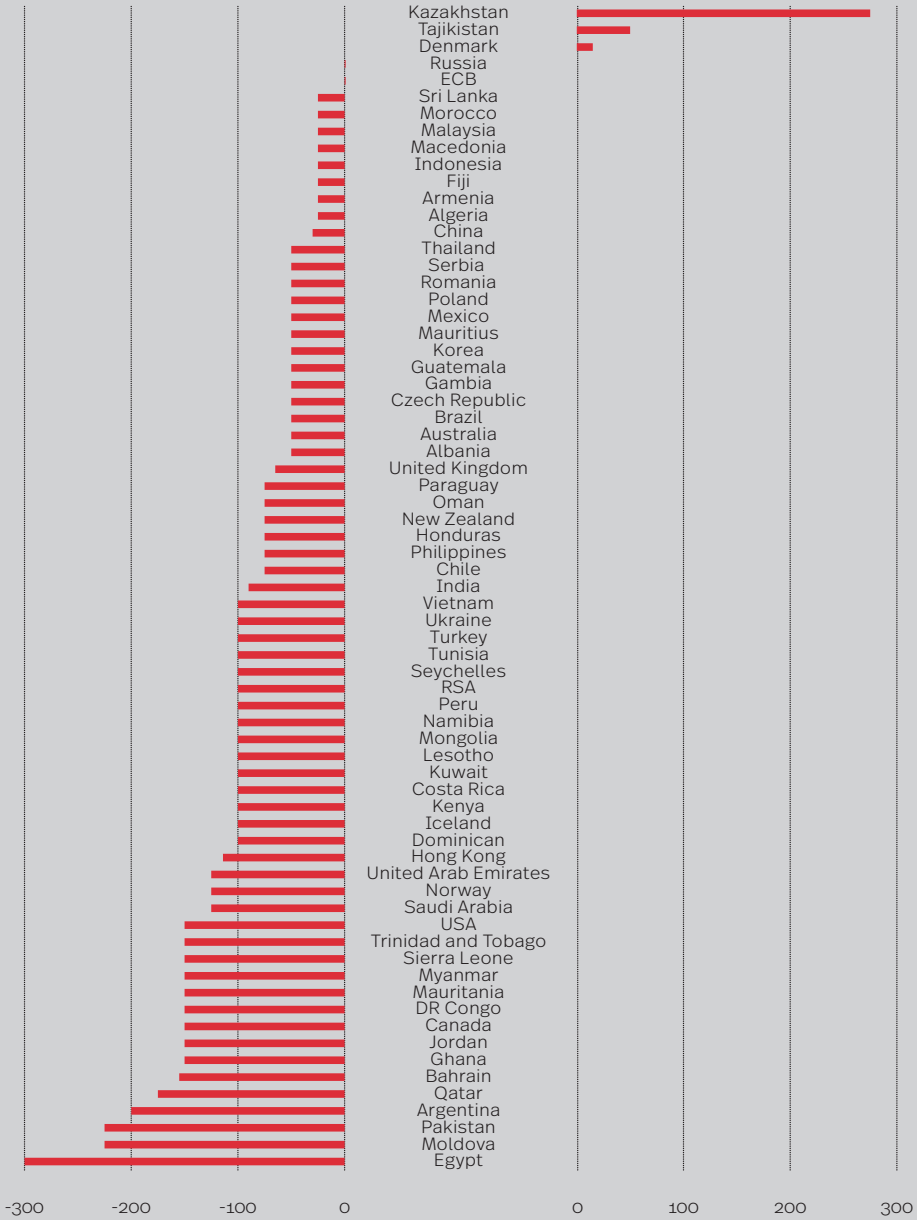
their extension, subject to government guarantees;
- → support for businesses to maintain employment and prevent bankruptcies – delayed and reduced payments and liabilities to public institutions, wage subsidies;
- → early support for the financial sector – increasing its liquidity through conventional measures (interest rate cuts, open market operations) and non-conventional actions (QE). These measures are taken in advance, before the emergence of problems in the financial sector, in the inter-bank market or the public debt market;
- → social protection programmes for citizens to support households and encourage social distancing.

Box 2. Interest rate cuts and other measure taken by central banks worldwide in connection with the coronavirus epidemic

As part of conventional measures, drawing on experience of the financial crisis, central banks in many countries have reduced interest rates:
Albania, Algeria, Saudi Arabia, Argentina, Armenia, Australia, Bahrain, Brazil, Chile, China, the Czech Republic, the Dominican Republic, Egypt, Fiji, the Philippines, Gambia, Ghana, Guatemala, Honduras, Hong Kong, Indonesia, Iceland, Jordan, Canada, Qatar, Kenya, the Democratic Republic of the Congo, South Korea, Costa Rica, Kuwait, Lesotho, Macedonia, Malaysia, Morocco, Mauritania, Mauritius, Mexico, Myanmar, Moldova, Mongolia, Namibia, Norway, New Zealand, Oman, Pakistan, Paraguay, Peru, Poland, the RSA, Romania, Serbia, the Seychelles, Sierra Leone, Sri Lanka, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, the US, the UK, Vietnam, Zimbabwe, the United Arab Emirates (Chart 8).

Other measures adopted by central banks:
- → government bond purchases (the ECB, Thailand, Australia, New Zealand, the UK, the US, Japan, South Korea); corporate debt securities purchases (South Korea, the UK, the US, India, Japan);
- → the provision of liquidity in various forms, including to entities operating in foreign currencies (currency swaps, e.g. Korea, Brazil, Mexico, New Zealand, Norway, Singapore, Switzerland, Sweden and the UK with the US, Denmark with the ECB, the Maldives with India);
- → the central banks of Switzerland, Georgia, Madagascar and the Maldives (using the US dollar as the exchange rate anchor) have also decided to intervene in FX markets to prevent rapid fluctuations in the exchange rates of their national currencies.

Chart 8. Change of basic interest rates in response to the COVID-19 pandemic (in basis points)



Note: the chart does not include Zimbabwe, which cut its interest rates by 1,000 basis points.

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

Among the measures introduced by central banks, the Fed's are worth noting: two fast interest rate cuts, followed by increasing the money supply in the market through quantitative easing (QE). Similar operations were conducted by the Bank of England. The ECB's liquidity-related efforts are described in the next chapter.

Additional measures considered by some countries included direct cash payment to citizens. The US authorities introduced legislation allowing all citizens to be sent cheques for USD 1,200 or USD 2,400, plus USD 500 per child (White House, 2020). However, this form of support is determined by the nature of the US job market, based on a low degree of worker protection (no paid annual leave, no sickness benefits).

Important examples of anti-crisis policies

Kurzarbeitergeld (Germany)

The main objective: maintaining employment at companies despite lower sales.
Estimated cost: EUR 10.5 billion (Financial Times, 2020) – the amount of the usual package extension.

During the coronavirus pandemic, the German government chose to use a solution present in German law for almost 100 years, extending its scope and scale. The term *Kurzarbeitergeld* (payment to a person employed with temporarily-reduced working hours) appeared in legislation in 1924. It means public assistance in the payment of salaries and wages to a company's employees when it is short of orders. Employees switch to reduced working time and the company, having shown the federal labour office the decrease in sales, receives compensation for the part of remuneration exceeding the new working hours (60 per cent of the difference between the basic and the reduced hours). Before February 2020, the maximum period for *Kurzarbeitergeld* payments was 12 months (it had been increased during the previous financial crisis, from 6 months before 2006).

The amendments introduced from March 2020 include (Bundesregierung, 2020):

- decreasing the compensation eligibility threshold of employees at risk of dismissal from 30 per cent to 10 per cent,
- suspending the payment of social security contributions for people employed on a *Kurzarbeitergeld* basis,
- including temporary workers in the programme,
- fast-track participation in the programme with no need to keep a balance of negative working time (i.e. the period of no orders).

Relying on a tool used to counteract prior economic crises is allowing Germany to provide employees, employers and public officials with stability. In the first month of the crisis, 470,000 companies applied for the programme. In 2019, the monthly average was around 13,000 businesses (Baumann, 2020).

The solution appears to have been effective, so similar measures have been introduced by most EU Member States (European Commission, 2020b). The most generous option was adopted by the **Danish government** (Euractiv, 2020), offering to pay 75 per cent of salaries at crisis-hit companies if they choose not to dismiss their employees (the remaining 25 per cent must be paid by the employers). Among non-EU countries, the British government covers up to 80 per cent of the salaries of workers at risk of losing their jobs due to the pandemic (BBC, 2020).

Guaranteed loans for firms (France)

The main objective: keeping businesses alive during the crisis (www2).
Maximum total amount: EUR 300 billion (mostly returnable).

Essential information:

- the maximum loan amount is the equivalent of 3 months' turnover or 2 years' payroll (for innovative firms or businesses set up after 1 October 2019),
- application deadline: end of 2020,
- all businesses other than those operating in the real estate or financial sectors are eligible,
- loans are granted by commercial banks and guaranteed by the government,
- no requirement to repay loan instalments in the first year.

The system is based on a special website[3] where companies submit the loan details and obtain unique codes for their banks. Loans are guaranteed by Bpifrance, a public institution comparable to the Polish Development Fund (PFR) as one of its founders was the French counterpart of the Polish development bank (BGK). By 31 March, around 21,000 companies had benefited from the scheme (Lebelle, Pelloli, 2020).

High unemployment benefits (Norway)

The main objective: social protection of workers and employer relief (Ministry of Labour and Social Affairs, 2020).
Estimated cost: no information.

The Scandinavian labour market is based on high flexibility combined with significant public support for workers (*flexicurity*). The Norwegian unemployment benefit exceeds half of the employee's pay before dismissal and may be paid for 26 weeks over a period of 18 months. The rules for granting the benefit are flexible; it can be related to reduced working time, a person can start receiving the unemployment benefit, go back to work and later lose their job and entitled to receive the benefit again. The key changes introduced by the Norwegian government in response to the current crisis are:

- the period during which the employer must pay a laid-off worker his or her full salary has been reduced from 15 to 2 days,
- from day 3 to day 20 of the lay-off period, the former employee receives the equivalent of his or her average salary over the past year (or 3 years; whichever is higher),
- after day 20, the unemployment benefit is 80 per cent of the previous salary for employees who earned less than NOK 300,000 a year and approximately 60 per cent for others (up to NOK 600,000 a year),
- the minimum income entitling a person to receive the unemployment benefit has been reduced to around NOK 75,000 over the past 12 months or NOK 225,000 in the past 36 months,
- the benefit can also be granted to employees whose working time has been reduced by 40 per cent (the previous minimum reduction in working hours was 50 per cent).

As a result of the government measures aimed at containing the epidemic, Norwegian labour offices received 361,500 unemployment claims (of which 324,100 were due to employment contract terminations)[4]. The unemployment rate went up to 14.7 per cent, a record high.

Ban on lay-offs (Spain)

At trade unions' request, the Spanish government banned companies from laying off employees for reasons attributable to the coronavirus epidemic (the reason for a dismissal cannot be *force majeure*, economic, technical or organisational complications due to the restrictions

[3] https://attestation-pge.bpifrance.fr/description [accessed: 8.4.2020].
[4] Data for the period from 12 March to 7 April 2020, http://www.nav.no [accessed: 7.4.2020].

introduced). During the crisis, temporary employment contracts may be suspended, but they must be renewed after the epidemic. Lay-offs will be assessed by courts and, where infringements of the regulations are found, laid-off employees will go back to work and receive compensation for any lost remuneration. The legislation will not apply to people dismissed before the new provisions were introduced. According to Spain's Minister of Labour, businesses should not lay off their staff as the solution introduced for the epidemic period (*expediente de regulación temporal de empleo*, ERTE), allowing temporary lay-offs or working time reductions, will be enough to protect employees from dismissal and businesses from losses. A worker affected by the ERTE procedure continues to be formally employed, but the employer only pays his or her social security contribution, without remuneration. These employees are entitled to unemployment benefits; up to 70 per cent of their previous salary. After the epidemic ends, the working conditions must be the same as before its outbreak (Enache, 2020).

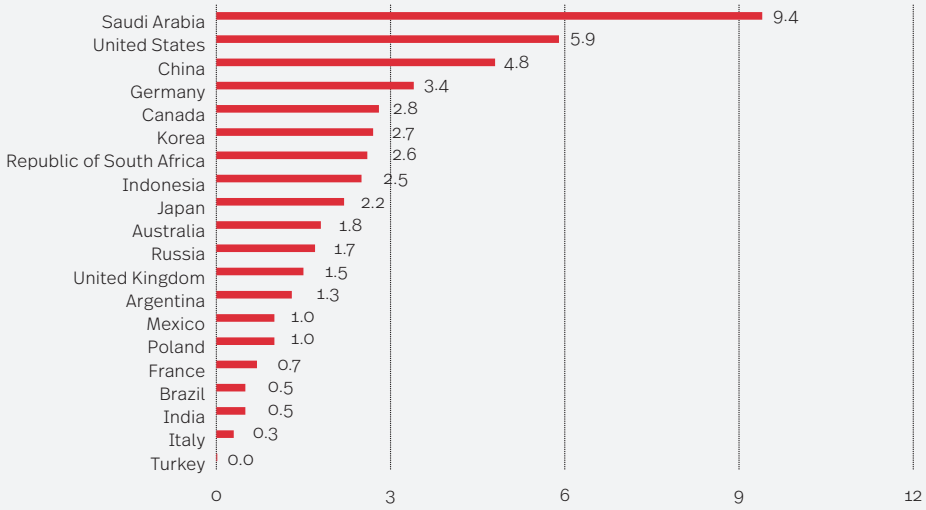
A comparison of fiscal package amounts

In public debate, the current crisis is often compared to the previous one; there is a similar temptation when it comes to the fiscal packages announced then and now. However, it is hardly possible to draw direct comparisons between the package amounts. The two crises differ in scale and mechanisms of economic impact; the global economy and national economies were at different stage of development in 2009 and the structure of national stimulus packages varies between crises and countries (relationships between the stimulus resulting from increased expenditure and that caused by tax cuts, different role of guarantee instruments). Importantly, data for packages introduced in 2009 concerns measures developed by governments for several months after the beginning of the crisis. The packages tended to cover two budget years. This time, government responses have been designed for a few weeks and specific measures are subject to change; they will also cover longer implementation periods (e.g. until 2024 for Germany and Australia). When writing this report, we updated the information several times; since the text was sent off to be published, more countries have announced modifications to their packages (as already done by Italy, France, Mexico). Considerable uncertainty about the development of the epidemic and related restrictions remains, which means that we are still not aware of the full scale of economic effects of the situation. Fiscal packages could change significantly in coming months.

At the beginning of March 2009, the overall amount of the announced fiscal packages was USD 1,643 billion, of which the funds for 2009 were USD 692 billion, i.e. 1.4 per cent of the G20 countries' total GDP and slightly above 1.1 per cent of global GDP. Despite the large packages, there were voices, e.g. as expressed by the IMF, that they should have been nearly twice as big at that stage of the crisis (Prasad, Sorkin, 2009).

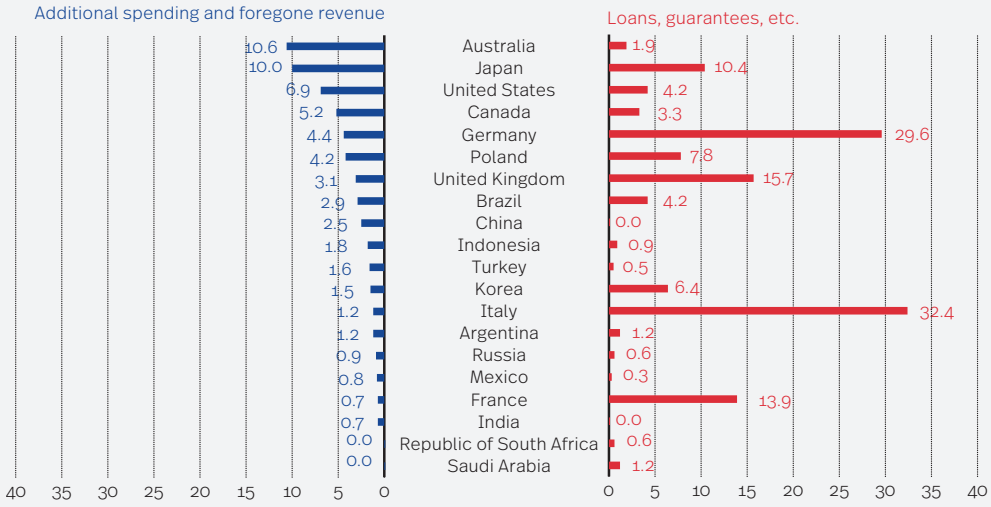
In early April 2020, it is clear that the fiscal responses by the G20 countries and Poland will be much larger than a decade ago. The announced amount already exceeds USD 4,800 billion. In this group of countries, 13 plan packages that account for a greater share of GDP than those adopted during the crisis of 2007–2009.

↘ Chart 9. Fiscal packages announced by the G20 countries and Poland in response to the financial crisis of 2007-2009 (as a percentage of GDP from 2008, as at March 2009)



Source: prepared by the PEI based on: Prasad, Sorkin (2009) – data for the G-20; OECD (2009) – data for Poland.

↘ Chart 10. Fiscal packages announced by the G-20 countries and Poland in response to the COVID crisis (as a percentage of GDP from 2019, as at the beginning of April 2020)



Source: prepared by the PEI based on IMF data and press releases.

Measures adopted by the European Commission and the European Central Bank

In connection with the spread of the coronavirus pandemic in Europe, the European Commission has adopted various measures to support EU Member States. The key actions at the time of writing (6 April 2020) are presented below (www3; European Commission, 2020c).

Support for healthcare systems:

- EUR 3 billion from the EU has been allocated to the Emergency Support Instrument and to RescEU to support the common stockpile of medical equipment;
- joint procurement to order masks and other personal protective and testing equipment. Joint procurement, currently including all the Member States, aims to obtain more favourable purchase conditions than in individual tenders. At the same time, a ban on exports of protective equipment to non-EU countries can be imposed (*export authorisation*).

Financial support:

- a new instrument (*Support to mitigate Unemployment Risks in an Emergency*, SURE) worth EUR 100 billion. It aims to provide loans to countries in need of additional funds for employment maintenance and lay-off prevention schemes (solutions allowing working time reductions or similar programmes protecting people from losing their incomes and jobs, including self-employed workers). SURE will use financial engineering to help cut the costs of raising capital;
- maximum flexibility in the rules for spending EU funds, allowing Member States to freely use of the money they receive (with no restrictions on transfers between specific objectives, regions or sources of funding). The national subsidy requirement has been lifted. The initiative allows around EUR 37.3 billion across the EU to be spent (www4);
- in collaboration with the Commission, the European Investment Bank proposed EUR 40 billion in funds for loan guarantees, additional liquidity for banks and asset purchases to mitigate banking risk (www5);
- an additional EUR 1 billion from the EU budget in the form of guarantees for the European investment Fund, which may deliver EUR 8 billion for SMEs.

Regulatory framework simplifications:

- a temporary departure from the rules laid down in the Stability and Growth Pact and the activation of the General Escape Clause. It allows Member States to depart from the deficit reduction paths agreed on with the Commission, which in practice means approving significant budget deficits (European Commission, 2020b);
- simplified rules for granting State aid (including direct subsidies, loan guarantees, tax relief, export credit insurance and other temporary measures) (www6).

Due to the rising economic costs of combating the COVID-19 pandemic, as well as the external and symmetric nature of the shock, the issue of cost sharing by euro area countries is back on the agenda. Solutions of this kind were discussed during the crisis of 2009–2012, which resulted in the establishment of the European Stability Mechanism (ESM). However, loans from the ESM are subject to certain conditions; the Member State must agree to implement economic reforms.

The current debate addresses the following options: using the ESM's lending capacity; ECB support in the form of a government bond purchasing programme (reducing yields); establishing a new (possibly ESM-based) agency authorised to issue low-interest debt instruments and provide funds for Member States; a one-off issuance of debt instruments to finance assistance to the euro area countries (Claeys, Wolff, 2020).

However, so far, the Council of the European Union has not reached a broader agreement on these kinds of measures, despite pressure from the southern Member States (currently hit the hardest by the pandemic and characterised by the highest debt-to-GDP ratios). The Netherlands, Austria, Finland and Germany strongly oppose these kinds of solutions (www7).

The ECB[5]

In March 2020, the ECB adopted various measures aimed to provide the European banking sector with liquidity to mitigate the risk of a financial crisis. First of all, the ECB will assign up to EUR 870 billion to purchasing assets, including government bonds, by the end of 2020. On the one hand, this will be an extension of the existing asset purchase programme (APP); on the other hand, a new scheme, established in connection with the COVID-19 pandemic, will be implemented – the Pandemic Emergency Purchase Programme (PEPP).

The ECB has also extended its long-term refinancing operations (LTRO) by cutting the interest rate on loans to -0.75 and easing the criteria.

The reserve requirements have been relaxed as well.

Measures have also been adopted by countries' central banks and international organisations. The World Bank announced the implementation of new projects worth USD 1.9 billion and focused on counteracting the effects of COVID-19 in 25 countries. The aid funds will amount to USD 160 billion over 15 months (www10).

Before 3 April 2020, 85 countries applied for financial support from the IMF in connection with the costs of the coronavirus pandemic. The IMF said it will use its lending capacity of USD 1 trillion to assist member countries. It is also considering other options, e.g. the allocation of SDRs (as during the financial crisis of 2007–2009), support for swap lines, injecting additional funds and making use of the Catastrophe Containment and Relief Trust. Specifically, the tools proposed include the Rapid Credit Facility (RCF) and the Rapid Financing Instrument (RFI) allowing low-income and developing countries to obtain loans up to USD 10 billion (for low-income countries, RCF) or USD 40 billion (emerging markets, RFI), with no requirement to launch reform programmes or to satisfy any *ex post* conditions. The funds available as part of those schemes are supposed to be doubled (www11).

[5] Prepared on the basis of: (www8); (www9).

Conclusions and recommendations

The current crisis is unprecedented in the history of modern economic systems. Earlier crises and previously-used economic (fiscal as well as monetary) policy tools do not offer decision-makers cut-and-dried solutions. When designing emergency programmes for the economy, the stage of the COVID-19 pandemic and the resulting economic crisis must be considered, as well as the methods for fighting it. Different tools are needed in the short term, as an immediate response to lockdown and disrupted production chains. Other instruments are needed to relax restrictions and others must be adopted during the transition to the 'new normal' – the post-pandemic economy.

There is a broad consensus on short-term actions, so our recommendations do not cover measures that are being planned or have already been announced by the Polish authorities; for example, as part of the Anti-Crisis Shield (wage subsidies, benefits and allowances, deferral and cancellation of social security contributions, etc.), and quantitative easing by the NBP, introduced urgently. Nor do we repeat that it is vital for businesses to maintain liquidity; for instance, with PFR programmes indirectly financed by the NBP.

However, the strategies for recovery and coping with the consequences of the crisis vary widely. The source of these differences is not hard to find: the scale and development of the crisis is still far from clear. We know that the economy is under enormous pressure on both the supply and demand side.

The liquidity of businesses, financial markets, jobs and, in coming months, public finance are all in jeopardy.

A closer look at the recommendations submitted in recent weeks by employers' organisations, trade unions, scholars and think-tanks shows that most participants in the global public debate are making projections based on their own views, interests and fears.

Economists who previously warning against increasing public debt now fear sovereign default even more. Those focusing on precarious work are intensifying their call for direct support for workers at the expense of debt, and so on. The coming weeks will show whether these concerns are warranted. At the end of the second quarter of the year, we might wake up to a new reality and face much graver problems than those in the first quarter.

We must not be under the illusion that the world must go back to pre-crisis conditions, that the only solution is to reset and rebuild what existed before. It is worth considering which elements should not be restored, in which areas the crisis has created an opportunity to carry out difficult modernisation, impossible in peaceful circumstances. Our recommendations point to measures needed in phases IV and V, but also to long-term objectives that should guide today's decisions.

1. **A new approach to strategic reserves**

Preparing for future crises will require building strategic reserves. The spectre of another epidemic or a second wave of the current one suggests that countries should stockpile medical and protective supplies. However, this is not just about storing resources.

Instead, we should create organisational and infrastructural conditions that will enable countries to respond in a timely way, as necessary. While excessive stocks is not justified in normal times, it is unacceptable that interrupted deliveries from India and China should result in a shortage of medical products (including basic medicines, analgesics, whose active ingredients are mostly manufactured in Asia) and that Poland is unable to produce sufficient minimum quantities on its own territory (Chrysoloras, 2020; Słowik, Styczyński, 2020). An epidemic is not the only type of crisis that could occur; building reserves should be based on recommendations by the Government Centre for Security, stress tests and strictly linked to increasing industrial capacity.

The COVID-19 pandemic has also shown industry's importance to the economy and that close cooperation between companies increases the ability to respond rapidly. In a matter of days, Ford in the US, PSA in France and Volkswagen in Germany re-orientated part of their operations towards manufacturing ventilators, critical equipment during the current crisis. Companies capable of quickly switching to producing essential goods must be identified in Poland and kept prepared for emergencies.

2. **Reinforcing the potential of Polish industry**

The potential of Polish industry should be reinforced in two basic directions. One, directly related to the health sector, would be to increase spending on the pharmaceutical industry and biotechnology, with a focus on domestic R&D. On the one hand, medicines and pharmaceutical products are the fourth most export oriented industry in Poland (62 per cent of output). On the other hand, the industry could be a pillar for innovation-based development due to its high value added.

The Polish government's Strategy for Responsible Development identifies biotechnology as one of the industrial policy areas that should be used to spur growth in Poland in coming years. Rebuilding economic potential after the slump caused by COVID-19 will require a strategic approach to biotechnology and increased spending on the sector.

3. **Investments in the key public service – healthcare**

Poland should improve its essential public services significantly, with healthcare as a top priority. Most countries are receiving similar recommendations (Mazzucato, 2020).

For the Polish healthcare sector, there is no 'going back to normal'. It is time for change; this has been clear for years. The system will need to cope with the consequences of the current epidemic while preparing for possible further waves of it or other threats that researchers and the WHO have been warning about for years (e.g. bacteria increasingly resistant to obsolete and overused antibiotics). First and foremost, human resources potential needs to be improved; in this respect, Poland currently ranks very low among the OECD countries, in terms of the number and age of employees. The rules on employing foreign citizens in the Polish healthcare system must be revised to make it easier to hire specialists from other countries, such as Ukraine. The healthcare sector needs more funds to increase its capacity, which should be generated by changes in the tax and contribution-based health insurance systems.

4. **A new opening in international trade**

The first channel transmitting the effects of the epidemic China to Europe was the disruption of production chains and the supply of semi-finished products. In the new normal, businesses will

need to focus more on their supply chains' resilience; economists argue that supply chains must be shortened or brought closer to the final market. This could shift the balance of power in global trade, e.g. in favour of emerging economies, including Central Europe. On the one hand, new orders may be placed by existing business partners to bridge the gap caused by missing Asian suppliers. On the other hand, it may be possible to enter new markets to replace firms that failed to survive the epidemic. Polish companies' ability to take advantage of these opportunities depends on their ability to maintain liquidity at the most difficult stage of the crisis, but also on access to rapid financial and organisational support. In practice, this may involve combining the PFR Group's current instruments with additional funds, e.g. in the form of outward expansion credit guarantees.

This will also be supported by regulations identifying industries and businesses that must not be acquired by foreign entities. The crisis is a reminder that 'capital has a nationality'. Measures such as India's ban on the export of medicines or the US's attempts to acquire key pharmaceutical suggest that ownership control will be strengthened in the new normal.

5. **Fiscal stimulus**

A faster economic recovery and assistance for the sectors hit the hardest by the pandemic-related restrictions will involve preparing a stimulus package (during the transition from phase IV to phase V).

Support should focus on two areas. One pillar should be sector-specific aid (e.g. the concept of vouchers for domestic tourism services) and selective tax cuts, such as reducing VAT on certain services (as done by some Asian countries). The other area should be broad support for households, enabling small services that currently have no customers to bounce back (e.g. by increasing unemployment benefits).

6. **Delaying the consolidation of public finance**

Public spending on anti-crisis efforts will rise in two stages. Initially, it will increase as a result of the current measures specified in the Anti-Crisis Shield, which aim to maintain employment and businesses' readiness to resume production. Next, it will be increased by the fiscal stimulus at the beginning of phase V, as advocated by us. While the two stages must be considered and adequate room for fiscal manoeuvre is needed, the experience of previous crises show that any further consolidation of public finance should not be conducted too hastily. It is impossible to stimulate growth and implement austerity policies at the same time. If GDP were to decrease or remain stable, it would also be ineffective as the debt-to-GDP ratio would not decline (which economists refer to as self-destructive fiscal policies (Fatas, Summers, 2018)). In addition, most of Poland's key trading partners, starting with Germany, will be struggling to recover from the recession in coming quarters this year. This means that Poland cannot design a bounce-back strategy mostly based on exports and cutting internal spending simultaneously. The fact that many countries have not returned to their growth paths from before the crisis of 2007–2009 is largely a result of the austerity policies in Europe. This means that, when easing the lockdown and at the beginning of the new normal, the Polish government should adopt a big, bold economic stimulus programme (as described above).

7. **Development-orientated taxes**

The Polish government's tax reform of 2019 reduced taxes by cutting the income tax rate for taxpayers in the first tax bracket from 18 to 17 per cent. In addition, so-called 'small social security

contributions' (*mały ZUS*) were introduced to decrease the burden on the companies with the lowest revenues. The tax rate in the second tax bracket remained unchanged (32 per cent).

The period of recovery from the economic crisis is the right time to re-open the debate on insufficient wedge progressiveness and the role of social security contributions in the tax wedge in Poland. Changing it might generate more funds for the healthcare system. It could also simplify the tax system and reduce labour taxation for the lowest earners to help them re-entering the job market more quickly after being unemployed.

Furthermore, more radical changes in the tax system need to be analysed and recommended, such as the introduction of the so-called 'Estonian CIT' to encourage business investments and technological upgrades (through process automation).

8. **Labour law reform**

Bouncing back after the crisis must be based on an active labour market policy, allowing workers from the sectors most affected by the slump to quickly return to economic activity. At the same time, problems faced by the self-employed or workers with civil contracts should lead to the reform of Poland's Labour Code. It is still too early to determine whether these changes should aim to include all types of contract in the social security contribution system or focus on deeper reform by introducing a single-contract solution (Arak, Lewandowski, Żakowiecki, 2014). Any labour law reform must also take into account the technological changes highlighted by the current crisis. Many businesses worldwide have been forced to switch to remote working. In China, this applied to more than 200 million people. According to the US Department of Labor, 29 per cent of employees would be able to work remotely, but last year just 16 per cent of people did. In the EU, an average of 5.2 per cent of employees worked from home in 2018; 8.3 per cent performed some of their duties in this form. The percentage of employees working remotely was highest in the Netherlands (14 per cent) and Finland (13.3 per cent). In Poland, it was 4.6 per cent. Today, we know that this percentage could be much higher with the same labour productivity. Labour law should take into account the technological tools available to employees and employers.

9. **Investment in strategic areas**

With a potentially sharp fall in private investment, measures to help the economy return to a path of growth as part of a broader fiscal stimulus package seem indispensable. The sudden economic slump due to supply and demand shocks makes a Keynesian stimulus both desirable and necessary.

We recommend the establishment of a Public Investment Fund at the Prime Minister's disposal for financing investment activity and anti-crisis efforts in the context of the coronavirus pandemic.

These measures should benefit companies registered in Poland for tax purposes to maintain and create jobs, while implementing priority structural changes. In addition to central investments, significant funds for investing and anti-crisis activities will be assigned to regional and local authorities. The priority areas for increased investment spending are:

- → infrastructure (e.g. Via Carpathia, the Solidarity Transport Hub),
- → technological modernisation of schools and hospitals,
- → energy transition,
- → biotechnology and pharmaceuticals (clinical trials conducted in Poland),
- → research and development in the private sector.

10. **An ambitious European budget**

The crisis caused by the COVID-19 pandemic is a combination of local crises in individual countries and a global crisis with common roots and shared approaches to fighting it (social distancing, saving businesses and maintaining employment). This is the right time for a bold, ambitious EU budget for 2021–2027, with cohesion policy and the common agricultural policy playing a leading role in stimulating the development of the European economy in the years ahead.

This would silence anti-European voices urging countries to cooperate with Russia or China, rather than with its neighbours, due to the lack of European solidarity. Close cooperation between EU Member States is needed to face today's challenges, such as the US–China rivalry, climate change and mass migration. We must not allow the pandemic or its subsequent waves to result in the EU's implosion or to riddle it with mutual animosity.

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List of charts, figures and tables

LIST OF CHARTS

LIST OF FIGURES

LIST OF TABLES

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