

OECD Interim Economic Assessment

Coronavirus: The world economy at risk

2 March 2020



CORONAVIRUS: THE WORLD ECONOMY AT RISK

Summary

The coronavirus (COVID-19) outbreak has already brought considerable human suffering and major economic disruption.

Output contractions in China are being felt around the world, reflecting the key and rising role China has in global supply chains, travel and commodity markets. Subsequent outbreaks in other economies are having similar effects, albeit on a smaller scale.

Growth prospects remain highly uncertain.

- On the assumption that the epidemic peaks in China in the first quarter of 2020 and outbreaks in other countries prove mild and contained, global growth could be lowered by around ½ percentage point this year relative to that expected in the November 2019 *Economic Outlook*.
- Accordingly, annual global GDP growth is projected to drop to 2.4% in 2020 as a whole, from an already weak 2.9% in 2019, with growth possibly even being negative in the first quarter of 2020.
- Prospects for China have been revised markedly, with growth slipping below 5% this year, before recovering to over 6% in 2021, as output returns gradually to the levels projected before the outbreak.
- The adverse impact on confidence, financial markets, the travel sector and disruption to supply chains contributes to the downward revisions in all G20 economies in 2020, particularly ones strongly interconnected to China, such as Japan, Korea and Australia.
- Provided the effects of the virus outbreak fade as assumed, the impact on confidence and incomes of well-targeted policy actions in the most exposed economies could help global GDP growth recover to 3¼ per cent in 2021.
- A longer lasting and more intensive coronavirus outbreak, spreading widely throughout the Asia-Pacific region, Europe and North America, would weaken prospects considerably. In this event, global growth could drop to 1½ per cent in 2020, half the rate projected prior to the virus outbreak.

Governments need to act swiftly and forcefully to overcome the coronavirus and its economic impact.

- Governments need to ensure effective and well-resourced public health measures to prevent infection and contagion, and implement well-targeted policies to support health care systems and workers, and protect the incomes of vulnerable social groups and businesses during the virus outbreak.
- Supportive macroeconomic policies can help to restore confidence and aid the recovery of demand as virus outbreaks ease, but cannot offset the immediate disruptions that result from enforced shutdowns and travel restrictions.
- If downside risks materialise, and growth appears set to be much weaker for an extended period, co-ordinated multilateral actions to ensure effective health policies, containment and mitigation measures, support low-income economies, and jointly raise fiscal spending would be the most effective means of restoring confidence and supporting incomes.

OECD Interim Economic Outlook Forecasts, 2 March 2020

	Real GDP growth				
	Year-on-year % change				
	2019	2020		2021	
	Interim EO projections	Difference from November EO	Interim EO projections	Difference from November EO	
World¹	2.9	2.4	-0.5	3.3	0.3
G20^{1,2}	3.1	2.7	-0.5	3.5	0.2
Australia	1.7	1.8	-0.5	2.6	0.3
Canada	1.6	1.3	-0.3	1.9	0.2
Euro area	1.2	0.8	-0.3	1.2	0.0
Germany	0.6	0.3	-0.1	0.9	0.0
France	1.3	0.9	-0.3	1.4	0.2
Italy	0.2	0.0	-0.4	0.5	0.0
Japan	0.7	0.2	-0.4	0.7	0.0
Korea	2.0	2.0	-0.3	2.3	0.0
Mexico	-0.1	0.7	-0.5	1.4	-0.2
Turkey	0.9	2.7	-0.3	3.3	0.1
United Kingdom	1.4	0.8	-0.2	0.8	-0.4
United States	2.3	1.9	-0.1	2.1	0.1
Argentina	-2.7	-2.0	-0.3	0.7	0.0
Brazil	1.1	1.7	0.0	1.8	0.0
China	6.1	4.9	-0.8	6.4	0.9
India³	4.9	5.1	-1.1	5.6	-0.8
Indonesia	5.0	4.8	-0.2	5.1	0.0
Russia	1.0	1.2	-0.4	1.3	-0.1
Saudi Arabia	0.0	1.4	0.0	1.9	0.5
South Africa	0.3	0.6	-0.6	1.0	-0.3

Note: Projection based on information available up to February 28. Difference from November 2019 Economic Outlook in percentage points, based on rounded figures.

1. Aggregate using moving nominal GDP weights at purchasing power parities.

2. The European Union is a full member of the G20, but the G20 aggregate only includes countries that are also members in their own right.

3. Fiscal years, starting in April.

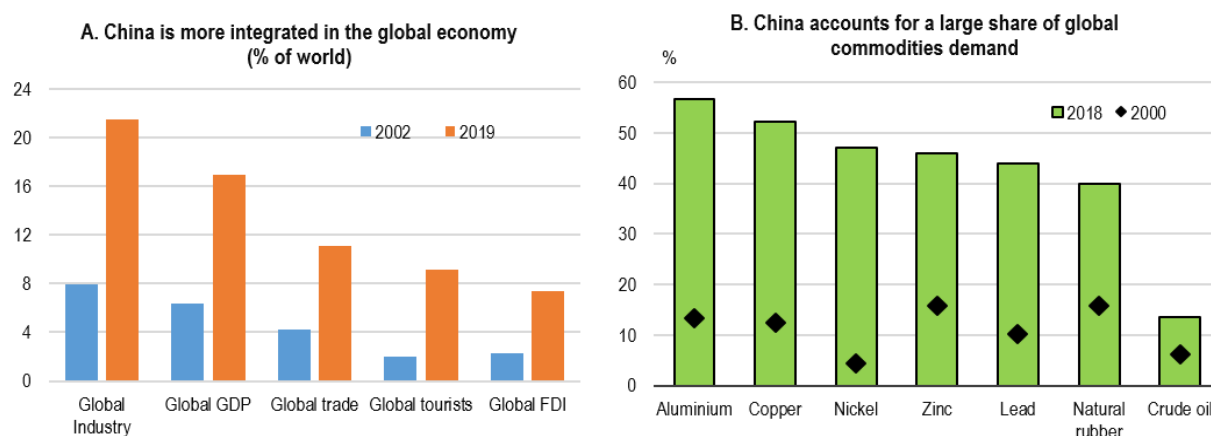
Global economic prospects remain subdued and very uncertain due to the coronavirus outbreak

The coronavirus (COVID-19) outbreak has already brought considerable human suffering and major economic disruption. In China, containment efforts have involved quarantines and widespread restrictions on labour mobility and travel, resulting in unplanned delays in restarting factories after the Lunar New Year holiday and sharp cutbacks in many service sector activities. These measures imply a sizeable output contraction whilst the effects of the outbreak persist. Subsequent outbreaks in other countries, including Korea and Italy, have also prompted containment measures such as quarantines and border closures, albeit on a smaller scale.

The adverse consequences of these developments for other countries are significant, including the direct disruption to global supply chains, weaker final demand for imported goods and services, and the wider regional declines in international tourism and business travel. Risk aversion has increased in financial markets, with the US 10-year interest rate falling to a record low and equity prices declining sharply, commodity prices have dropped, and business and consumer confidence have turned down.

Relative to similar episodes in the past, such as the SARS outbreak in 2003, the global economy has become substantially more interconnected, and China plays a far greater role in global output, trade, tourism and commodity markets (Figure 1). This magnifies the economic spillovers to other countries from an adverse shock in China. Even if the peak of the outbreak proves short-lived, with a gradual recovery in output and demand over the next few months, it will still exert a substantial drag on global growth in 2020.

Figure 1. China accounts for a rising share of global activity



Note: Share of industry, GDP and trade in constant US dollars. Share of global FDI in current US dollars. Data for the tourist share refer to 2002 and 2017, and data for FDI refer to 2005 and 2018. Industry data are on a value-added basis and include the construction sector. Source: OECD Economic Outlook database; OECD FDI in Figures, October 2019; and World Bank.

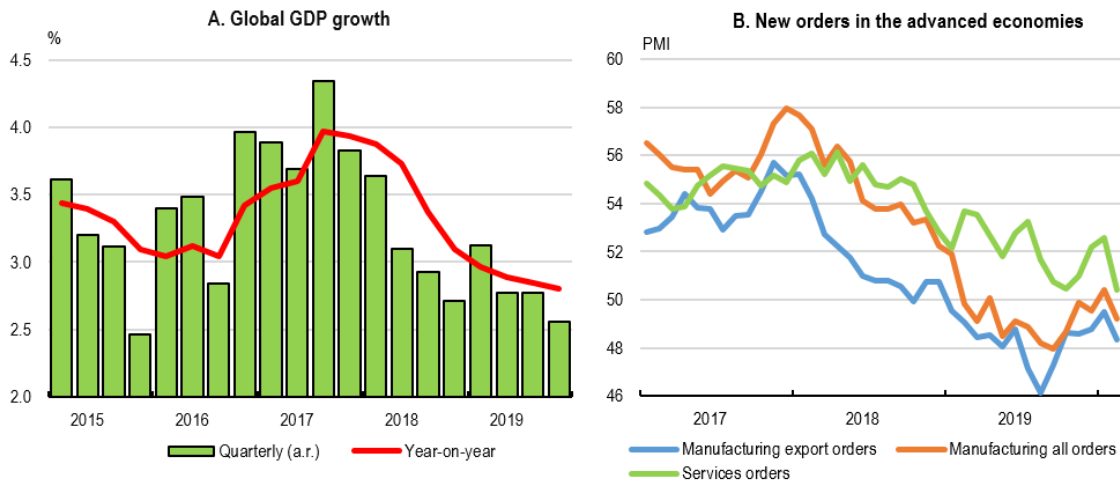
Signs of stabilisation had appeared prior to the COVID-19 outbreak, although economic activity remained weak

Prior to the COVID-19 outbreak, activity data remained soft but survey indicators had begun to stabilise or improve in both manufacturing and services (Figure 2). Financial conditions had also strengthened following moves to increase monetary policy accommodation and reduce trade policy tensions. Preliminary estimates suggest that global GDP growth slowed further in the fourth quarter of 2019, to just over 2½ per cent (at an annualised rate on a PPP basis) (Figure 2), with strikes, social unrest and natural disasters affecting activity in a number of countries. Growth remained close to trend in the United States, but demand fell sharply in Japan following the consumption tax increase in October and stayed weak in economies strongly exposed to the slowdown in global trade, including Germany. Growth continued to be subdued in many emerging market economies, with GDP growth slowly easing in China and large non-performing loans and over-leveraged corporate balance sheets weighing on investment in India.

Industrial production continued to stagnate in late 2019, and the growth of consumer spending lost momentum despite continued steady employment gains. The pace of the decline in global car sales moderated through 2019, but demand has subsequently tumbled again, with provisional data suggesting a monthly decline of 10% in sales in January 2020, with a 20% decline in China.

Global trade also remains very weak. Merchandise trade volumes contracted in the fourth quarter of 2019, and declined in 2019 as a whole, the first calendar year fall since 2009 (Figure 3, Panel A). Container port traffic and air freight traffic were also weak ahead of the coronavirus outbreak, and further sharp falls seem likely in the near term. Survey measures of manufacturing new export orders had begun to turn up but fell back in the flash PMI surveys for February, particularly in Japan and Australia. Investment data are also soft, held back in part by continued high uncertainty and weak expected future growth. Aggregate investment growth in the G20 economies (excluding China) slowed from an annual rate of 5% early in 2018 to only 1% last year.

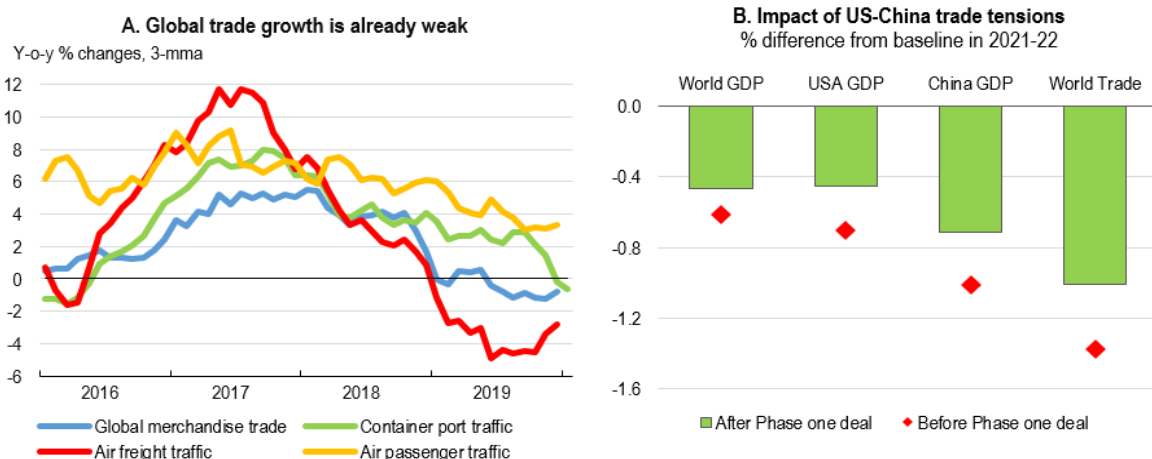
Figure 2. Global growth has lost momentum



Note: GDP at constant prices on a PPP basis. Data for the fourth quarter of 2019 are an estimate. The advanced economy PMI series are a PPP-weighted average for Australia, the euro area, Japan, the United Kingdom and the United States.
 Source: OECD Economic Outlook database; and Markit.

The higher tariffs imposed on US-China bilateral trade over the past two years are an important factor behind the weakness of global demand, trade and investment. The US-China “Phase One” trade agreement in January is a welcome development that should help to alleviate some of these effects. Nonetheless, the commitment by China to purchase an additional cumulative USD 200 billion of goods and services from the United States over 2020-21 (relative to a 2017 baseline of around USD 180 billion) will be challenging to achieve without distorting third-party trade, and bilateral tariffs remain substantially higher than two years ago. Overall, the Phase One agreement reduces the drag on global GDP growth in 2020 and 2021 from the measures implemented over the past two years by around 0.1 percentage point per annum (Figure 3, Panel B).

Figure 3. Global trade remains weak, with a continued drag from trade tensions



Note. Estimates in Panel B show the combined impact of the changes in bilateral tariffs implemented by the United States and China in 2019 prior to and after the Phase One Agreement and a global rise of 50 basis points in investment risk premia that persists for three years before slowly fading thereafter. All tariff shocks are maintained for six years. Based on simulations on NiGEM in forward-looking mode.
 Source: CPB; IATA; RWI/ISL Container Throughput Index; and OECD calculations using the NiGEM global macroeconomic model.

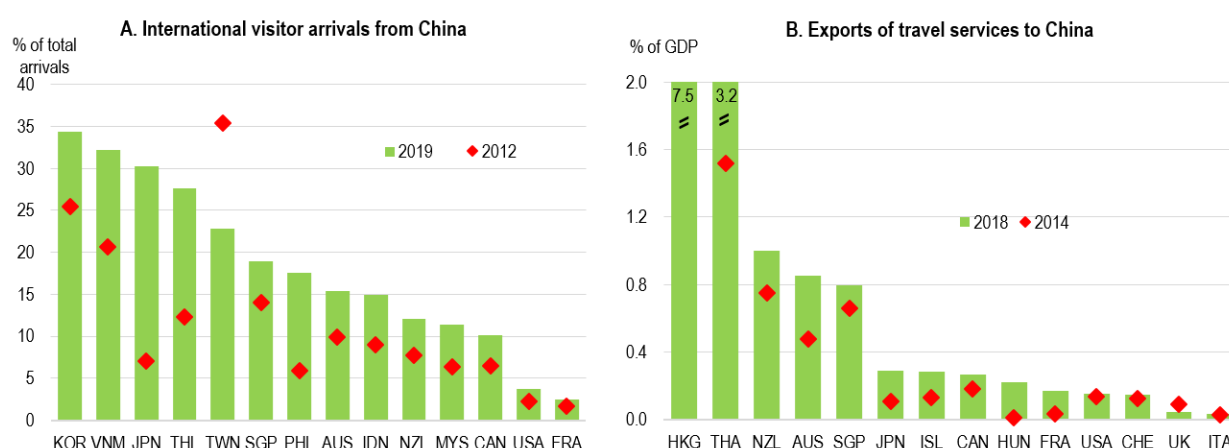
The coronavirus outbreak has significantly weakened near-term global economic prospects

Since the outbreak in January, close to 85,000 people have been infected worldwide, with a fast-rising share of these outside China. The epicentre of the outbreak was in Hubei province, which accounts for about 4.5% of China's output, but the effects have been quickly apparent throughout China with efforts to control the spread of the virus leading to wide-ranging restrictions on passenger transportation, labour mobility and hours worked. Available indicators for February point to significant declines in activity inside China, and the tentative signs of a mild improvement towards the end of the month appear unlikely to be rapid enough to prevent the level of output in the first quarter of 2020 being lower than in the fourth quarter of 2019.

Production declines in China have been quickly felt by businesses around the world, given China's key role in global supply chains as a producer of intermediate goods, particularly in computers, electronics, pharmaceuticals and transport equipment, and as the primary source of demand for many commodities. Temporary supply disruptions can be met by using inventories, but inventory levels are lean due to just-in-time manufacturing processes and alternative suppliers cannot easily be obtained for specialised parts. A prolonged delay in restoring full production in affected regions would add to the weakness in manufacturing sectors in many countries, given the time it takes to ship supplies around the world.

Travel restrictions, and the cancellation of many planned visits, flights, business and leisure events are severely affecting many service sectors. This is likely to persist for some time. Worldwide, Chinese tourists account for around one-tenth of all cross-border visitors, and one-quarter or more of all visitors in Japan, Korea and some smaller Asian economies (Figure 4, Panel A). Exports of travel services to China, including the spending by Chinese visitors, are also significant in many countries (Figure 4, Panel B). The virtual cessation of outbound tourism from China represents a sizeable near-term adverse demand shock. This is already apparent in many destinations; visitor arrivals in Hong Kong, China in February were 95% lower than usual. If the spread of the coronavirus outbreak affects visitor numbers more widely across the major economies, there would be sizeable costs, with tourism accounting directly for 4¼ per cent of GDP in the OECD economies and almost 7% of employment.

Figure 4. Chinese visitors account for a rising share of visits and tourist spending in many economies



Note: Panel A: data for Japan and Korea are for the first 11 months of 2019; data for Australia are for the year to June 2012 and June 2019; data for France, Malaysia, New Zealand, the Philippines, and the United States are for 2018; data for Indonesia are for 2017. Panel B data for Singapore and Thailand are for spending by foreign tourists in the country. Data for Hong Kong, China and Iceland are for 2017.

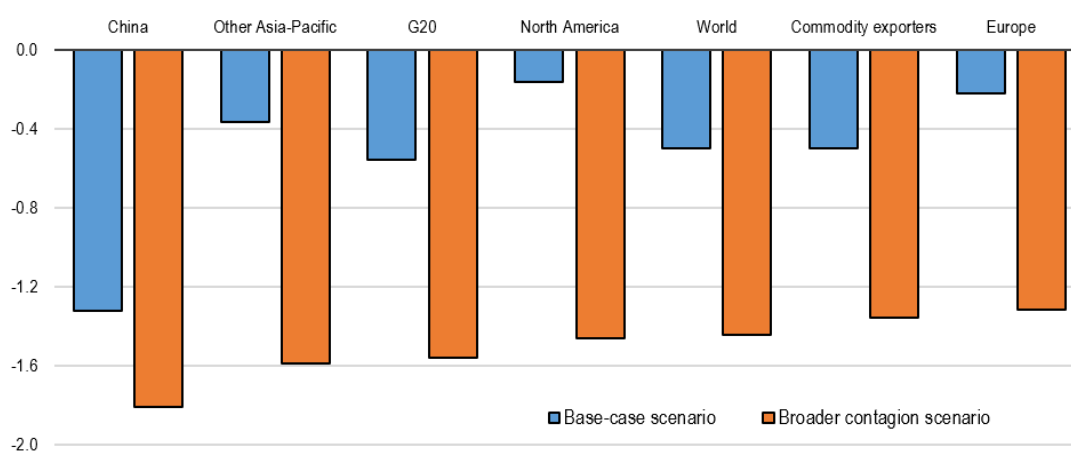
Source: OECD Economic Outlook database; OECD Trade in Services by Partner Country; Austrade; Eurostat; Direction Générale des Entreprises; Japan National Tourism Organisation; Korea Tourism Organisation; Tourism Malaysia; New Zealand Statistics Office; Philippines Department of Trade and Industry; Singapore Tourism Board; Statistics Canada; Ministry of Tourism and Sports, Thailand; US International Trade Administration; Vietnam National Administration of Tourism.

Global growth is set to weaken this year and recover gradually in 2021

Growth prospects are very uncertain. The projections are based on the assumption that the epidemic peaks in China in the first quarter of 2020, with a gradual recovery through the second quarter aided by significant domestic policy easing. Together with the recent marked deterioration in global financial conditions and heightened uncertainty, this will depress global GDP growth in the early part of the year, possibly even pushing it below zero in the first quarter of 2020. Even if the COVID-19 effects fade gradually through 2020, as assumed, illustrative simulations suggest that global growth could be lowered by up to ½ percentage point this year (Box 1; Figure 5). New cases of the virus in other countries are also assumed to prove sporadic and contained, but if this is not the case, global growth will be substantially weaker.

Figure 5. Illustrative coronavirus scenarios highlight the adverse impact on growth

Change in GDP growth in 2020 relative to baseline, percentage points



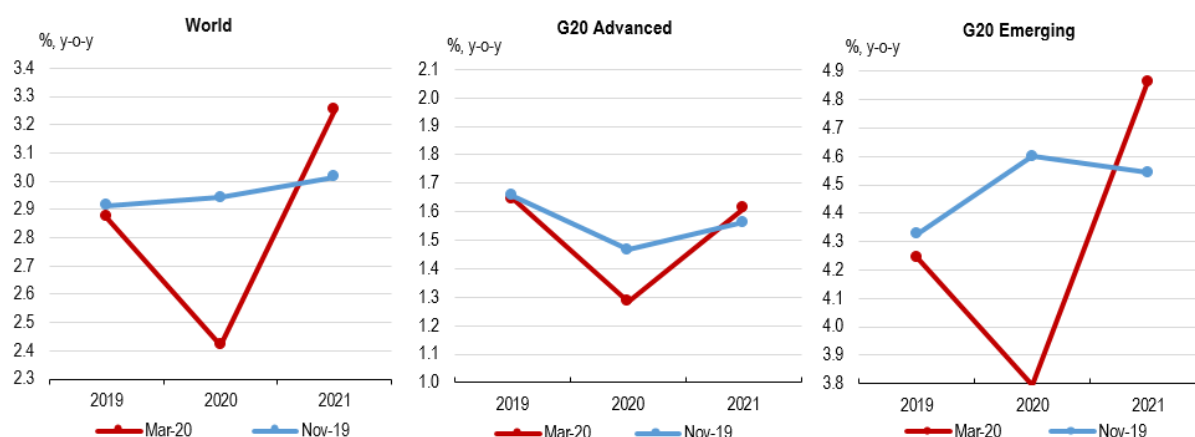
Note: Simulated impact of weaker domestic demand, lower commodity and equity prices and higher uncertainty. Base-case scenario with the virus outbreak centred in China; broader contagion scenario with the outbreak spreading significantly in other parts of the Asia-Pacific region, Europe and North America. See Box 1 for full details of the shocks applied. Commodity exporters include Argentina, Brazil, Chile, Russia, South Africa and other non-OECD oil-producing economies.

Source: OECD calculations using the NiGEM macroeconomic model.

On this basis, global GDP growth is projected to slow from 2.9% in 2019 to 2.4% this year, before picking up to around 3¼ per cent in 2021 as the effects of the coronavirus fade and output gradually recovers (Figure 6). Announced and implemented policy actions incorporated in the projections will help to support incomes in the near term, particularly those well-targeted on affected firms and households. Macroeconomic policy stimulus in the most exposed economies will help to restore confidence as the effects of the virus outbreak and supply-side disruptions fade. Low interest rates should help cushion demand, although the impact of recent and projected changes in policy interest rates on activity is likely to be modest in the advanced economies. Fiscal policy easing will also help in Asian economies, but it appears likely to be more restrictive than desirable in many others, particularly in Europe, given soft growth prospects and low borrowing rates.

Household spending continues to be underpinned by improving labour market conditions, but slowing job creation is likely to weigh on income growth, and persistent weak productivity growth and investment will check the strength of real wage gains. Uncertainty is likely to remain elevated, with trade and investment remaining very weak. The downturn in financial market risk sentiment, and reductions in business travel and tourism are also likely to constrain demand growth for some time.

Figure 6. GDP growth prospects are set to remain weak



Note: Projections from the current Interim Economic Outlook and the November 2019 OECD Economic Outlook.

Source: OECD Economic Outlook database.

Prospects for the major economies are mixed:

- Prospects for China have been revised down markedly in 2020, with calendar year GDP growth projected to be just under 5%. Calendar year growth in 2021 is correspondingly pushed up to between 6¼-6½ per cent, with the level of output through 2021 broadly in line with what would have been projected in the absence of the coronavirus outbreak. A similar, albeit less pronounced, pattern is projected in many economies strongly interconnected with China, including Japan, Korea, Australia and Indonesia.
- The effects of the coronavirus outbreak on other economies less heavily integrated with China are projected to be relatively mild, particularly in the United States and Canada, although the decline in confidence, disruption to supply chains and weaker external demand will moderate growth prospects.
- Growth in the euro area is projected to remain sub-par, at around 1% per annum on average in 2020-21, although the impact of the virus outbreak will weaken outcomes in the first half of 2020. The projections for the United Kingdom and the euro area are based on an assumption that a basic free trade agreement for goods comes into force from the start of 2021. Even if this is implemented smoothly, the higher costs for service exports and non-tariff administrative barriers are likely to weigh on exports and output growth through 2021.
- A gradual, albeit modest, recovery in many emerging-market economies is projected for 2020-21, but the extent of this recovery is uncertain. An upturn will require a positive impact from reforms and monetary policy support in India and Brazil, well-focused policy measures in Mexico and Turkey to boost sustainable growth, and a gradual recovery in commodity exporters exposed to the slowdown in China this year.

Downside risks are significant

Growth could be weaker still if downside risks materialise. In the near-term, the major downside risk is that the impact of the coronavirus proves longer lasting and more intensive than assumed in the projections. In the event that outbreaks spread more widely in the Asia-Pacific region or the major advanced economies in the northern hemisphere, the adverse effects on global growth and trade will be much worse and more widespread. Illustrative simulations of this downside risk scenario suggest that global GDP could possibly be reduced by 1½ per cent in 2020, rather than by ½ per cent as in the base-case scenario (Box 1; Figure 5). A larger decline in growth prospects of this magnitude would lower global GDP growth to around

1½ per cent in 2020 and could push several economies into recession, including Japan and the euro area. The overall impact on China would also intensify, reflecting the decline in key export markets and supplying economies.

Other important downside risks include:

- Trade and investment tensions remain high and could spread further. The prospects for a further trade deal between the United States and China that would remove all the remaining tariffs put in place over the last two years are uncertain. In addition, other bilateral trade tensions could also still spread, notably between the United States and Europe. Failure to achieve a prompt resolution to the current disruption to WTO dispute settlement procedures would also add to global trade policy uncertainty. A particular concern is that trade and investment restraints may be used as levers in negotiations about taxation of global corporations and other non-trade-related issues.
- Uncertainty remains about the future UK-EU trading relationship and whether negotiations on this can be completed before the end of the transition period set out in the withdrawal agreement (currently end-2020). The possibility that a formal trade deal will not be agreed remains a downside risk and a source of uncertainty. If trade between the United Kingdom and the European Union were to revert to WTO terms after 2020, instead of a basic free trade agreement for goods as assumed in the projections, near-term growth prospects would be significantly weaker and more volatile. Such effects could be stronger still if preparations to border arrangements failed to prevent significant delays, or if financial market conditions and consumer confidence were to deteriorate considerably.
- The recent sharp reaction in financial markets to the spread of the coronavirus in late February adds to the persisting financial vulnerabilities from the tensions between slower growth, high corporate debt and deteriorating credit quality, including in China. Globally, just over half of all new investment grade corporate bonds issued in 2019 were rated BBB (the lowest investment-grade rating) and a quarter of all non-financial corporate bonds issued in 2019 were non-investment grade. These developments raise the risk of significant corporate stress if risk aversion intensifies from already high levels, especially in event of a sharp economic downturn. In such circumstances, current BBB-rated bonds could be downgraded to non-investment grade, with the associated enforced sales amplifying the financial market effects of the initial downturn triggered by the coronavirus spread.

Box 1. Illustrative coronavirus scenarios and their economic impact

The scenarios set out below illustrate the potential global economic effects that could result from the COVID-19 outbreak in China and the risks that it spreads to other economies. The analysis contains two scenarios, looking initially at the potential impacts of a contained outbreak, centred largely in China, and subsequently the potential effects from an illustrative downside scenario in which the outbreak spreads significantly more than has so far occurred into other parts of the Asia-Pacific region and advanced economies in the northern hemisphere.

The base-case scenario: a contained outbreak

An initial scenario considers the effects of a short-lived, but severe downturn in China, and has been used as a guide for the updated growth projections. The impact of the coronavirus outbreak, and the measures used to contain its spread, is akin to an adverse supply-side shock, with an enforced decline in the number of hours worked. However, the effects are mirrored in weaker demand. A decline in confidence, foregone income for laid-off workers, and lower demand for travel and tourism services all hit consumer spending; a reduction in cash-flow and higher uncertainty delay corporate investment; and existing inventory levels are run down due to the disruption of supply chains.

The shocks considered in this scenario are as follows:

- Domestic demand in China and Hong Kong, China is reduced by 4% in the first quarter of 2020, and 2% in the second quarter of 2020, reflected in both investment spending and private consumption.
- Global equity prices and non-food commodity prices are lowered by 10% in the first half of 2020.
- Higher uncertainty is modelled via a small rise of 10 basis points in investment risk premia in all countries in the first half of 2020. This raises the cost of capital and reduces investment.

All of these shocks are assumed to subsequently fade away gradually by early 2021.

In the near term, given considerable uncertainty, businesses and households are unlikely to behave as if the future was known with certainty, even if policymakers take action to lower the chances of a prolonged downturn. This makes spending choices more heavily dependent on current conditions rather than future expectations.¹

Monetary policy is allowed to be endogenous. Policy interest rates can be lowered (relative to baseline), but for illustrative purposes there is assumed to be a binding zero lower bound, so that policy interest rates cannot become negative, or remain unchanged where they are already negative, as in the euro area and Japan. In practice, central banks can overcome this through the use of non-standard measures, but these may differ significantly across countries. The automatic fiscal stabilisers are allowed to operate fully in all countries, implying that governments do not react to the shock by attempting to maintain a previously announced budget path.

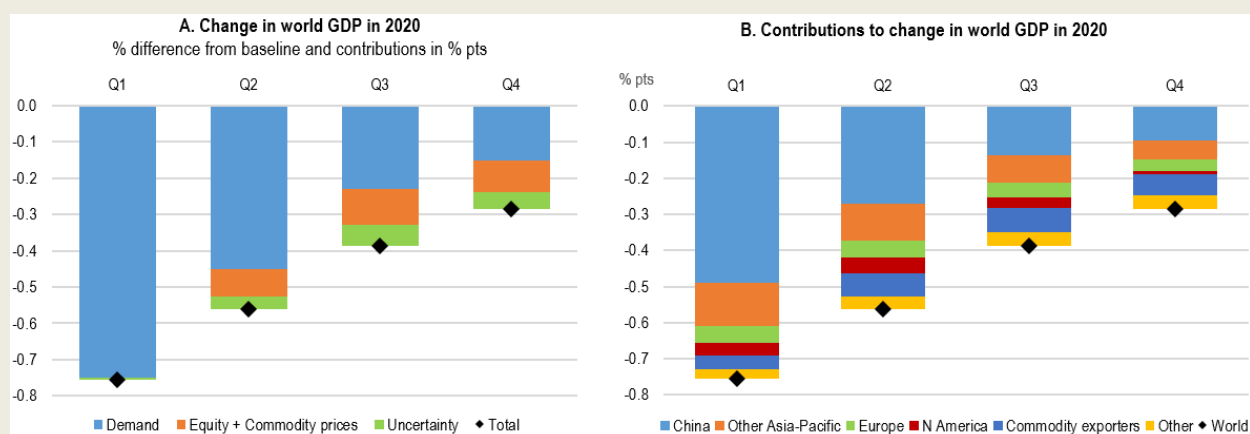
Key features of this scenario are:

- In China, these shocks result in GDP declining by around 2% (relative to baseline) in 2020H1, with the larger decline in domestic demand offset by a sharp reduction in import demand of around 6%, reflecting lower demand for finished goods and services (including travel-related services) and for intermediate inputs into production.
- Overall, the level of world GDP is reduced by up to ¾ per cent (relative to baseline) at the peak of the shock, with the full year impact on global GDP growth in 2020 being around 0.5 percentage point (Figure 7, Panel A). Most of this decline stems from the effects of the initial reduction in demand in China. Global trade is significantly affected, declining by 1.4% in the first half of 2020, and by 0.9% in the year as a whole.
- The impact on the rest of the world depends on the strength of cross-border linkages with China. In the near term, the adverse effects on GDP are relatively strong in Japan, Korea, other smaller economies in East and South-East Asia, and commodity exporters (Figure 7, Panel B). All of these economies are significantly exposed to China via strong supply-chain linkages and tourism and other travel-related services.
- Lower equity prices and higher risk premia also adversely affect household and corporate demand around the world via wealth effects on consumer spending and the impact of a higher cost-of-capital on business investment. However, the overall impact of lower commodity prices is broadly neutral. Commodity exporters are hit by a reduction in their export revenues, but commodity-importing economies benefit from lower prices.
- The net effects of the combined shocks are deflationary, with consumer price inflation pushed down by around ¼ percentage point in 2020 in the OECD economies and by a little more in non-OECD economies.
- The impact of the shock would be larger if monetary policy outside China did not react and the automatic budgetary stabilisers were not allowed to operate. Policy interest rates are reduced by over 25 basis points in the major OECD economies that have policy space, and by more in the most heavily exposed economies. This helps to limit the negative effects on domestic activity and provides support for a recovery in 2021. The overall increase in the government budget deficit in the typical advanced economy is small, at around 0.1% of GDP in 2020, with the impact of the

automatic stabilisers and lower tax base offset by lower nominal final expenditure and lower borrowing costs.

This analysis cannot pick up the full extent of possible sharp discontinuities that might arise from the impact of the virus in China. These include possible supply-chain disruptions, particularly where alternative sources of supply are scarce, or the complete stop of cross-border travel into some locations. Such factors may change the impact of the virus outbreak over time – with a stronger negative impact in the first quarter of 2020 – and across regions.

Figure 7. Base-case scenario: potential economic impact of the coronavirus outbreak



Note: The first panel shows the contributions to the decline in the level of GDP from the different element of the shock. The second panel shows the contributions of different regions and countries to the decline in global GDP. Commodity exporters are Argentina, Brazil, Chile, Russia, South Africa and other non-OECD oil-producing economies. See text for details of the shocks applied.

Source: OECD calculations using the NiGEM global macroeconomic model.

Economic policy choices in China have an important bearing on the speed at which the economy can adjust towards more normal conditions following the virus outbreak. In the very short term, as discussed in the main text, the provision of adequate liquidity is a key policy measure – as is being done – to overcome corporate cash-flow problems and ensure that otherwise solvent firms do not go bankrupt whilst widespread containment measures are in force.

If the virus outbreak persists for several months and fades only slowly – as assumed in the scenario above – stronger macroeconomic policy support can help to stabilise the economy. Policy interest rates are lowered by around 30 basis points in China in the scenario above and the automatic fiscal stabilisers are allowed to operate, with the budget deficit rising by around 0.4% of GDP in 2020. Taken together, these measures reduce the extent of the overall decline in GDP growth in China by around 0.2 percentage point in 2020. (The PBOC has already lowered the reverse repo rate and the one-year Medium-Term Lending Facility rate by 10 basis points in February.) A further option would be to undertake timely, temporary and well-targeted fiscal stimulus measures in 2020 as the economy begins to recover, preferably ones such as stronger investment spending that strengthen final demand directly, rather than measures that operate only indirectly through household and corporate income.

A “domino” scenario: broader contagion

This illustrative downside risk scenario considers the potential effects if the outbreak of the virus in China were to spread much more intensively than at present through the wider Asia-Pacific region and the major advanced economies in the northern hemisphere in 2020. In this event, demand is likely to be significantly hit across much of the world for an extended period. Together, the countries affected in this scenario represent over 70% of global GDP (in PPP terms). While the extent of the restrictions on movement currently seen in China may not be fully replicated everywhere, many of the economic impacts are likely to be similar, with a significant hit to confidence, heightened uncertainty and (voluntary) restraints on travel and commercial and sporting events all likely to depress spending.

The additional shocks considered in this scenario are:

- Domestic demand in most other Asia-Pacific economies, including Japan and Korea, and private consumption in the advanced northern hemisphere economies is reduced by 2% (relative to baseline) in the second and third quarters of 2020.
- Global equity prices and non-food commodity prices are lowered by 20% in the first nine months of 2020.
- Heightened uncertainty is modelled via an increase of 50 basis points in investment risk premia in all countries in 2020.

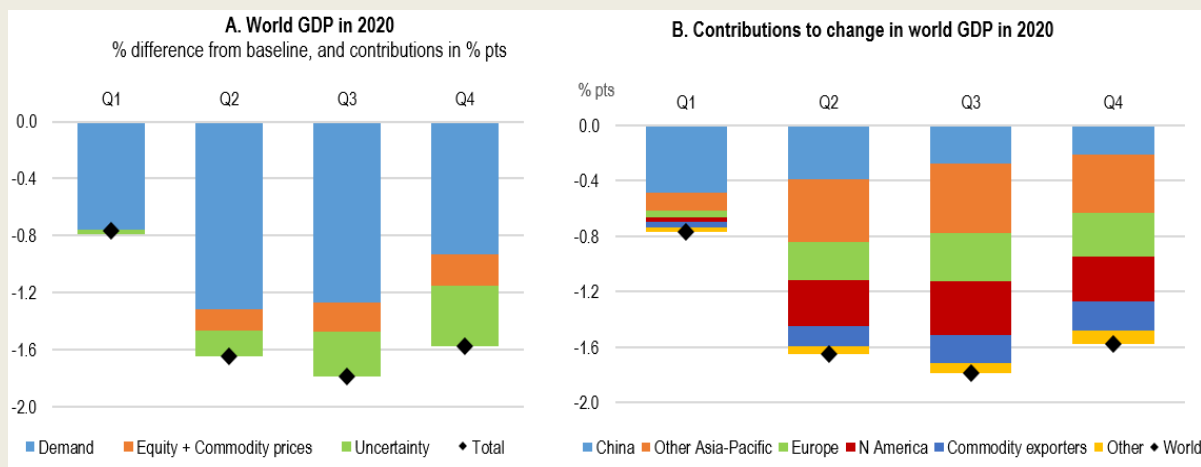
These shocks are assumed to decline gradually through 2021.²

Key results of this scenario are:

- Overall, the level of world GDP is reduced by up to 1¾ per cent (relative to baseline) at the peak of the shock in the latter half of 2020, with the full year impact on global GDP growth in 2020 being close to 1½ per cent (Figure 8). Initially, the adverse impact is concentrated in China, but the effects in the rest of Asia, Europe and North America gradually build up through 2020. The major part of the decline in GDP again stems from the direct effects of the reduction in demand, but the impact of heightened uncertainty accumulates gradually (Figure 8, Panel A). World trade is substantially weaker, declining by around 3¾ per cent in 2020, hitting exports in all economies.
- The deflationary effects of the combined shocks are considerably larger than in the base-case scenario, with consumer price inflation pushed down by around 0.6 percentage point in 2020 in the OECD economies.
- Steps to enhance monetary policy accommodation in the major economies and the automatic fiscal stabilisers help to cushion the overall impact of the shock, though their full effects take time to emerge. In the advanced economies with sufficient policy space, policy interest rates are lowered, on average, by around 1 percentage point in 2020. Use of the automatic stabilisers and the substantial hit to GDP result in sizeable increases in budget deficits, despite lower borrowing costs. In the median advanced economy, the budget deficit rises by a little over 0.5% of GDP in 2020.
- Faced with a large negative shock of the magnitude considered, and an extended period of high uncertainty, there would be a rising chance that several central banks could become constrained by the zero lower bound on policy interest rates, including those in Australia, Korea and the United Kingdom. Unconventional policy measures would then be needed to make policy more accommodative.

The increasing constraints on monetary policy suggest that a swift and sizeable discretionary fiscal response would be needed in event of a scenario of this type occurring. This reinforces the need for stronger global policy co-operation. When significant downside risks materialise with global growth set to be significantly weaker than projected, co-ordinated policy action within and across all the major economies is necessary for effective and timely economic stabilisation.

Figure 8. Domino scenario: potential economic impact of the coronavirus outbreak



Note: The first panel shows the contributions to the decline in the level of GDP from the different element of the shock. The second panel shows the contributions of different regions and countries to the decline in global GDP. Commodity exporters are Argentina, Brazil, Chile, Russia, South Africa and other non-OECD oil-producing economies. See text for details of the shocks applied.

Source: OECD calculations using the NiGEM global macroeconomic model.

1. To capture such effects, the near-term scenario is undertaken on the NiGEM model in backward-looking mode. This means that consumers and companies do not make their current spending choices with certainty that the effects of the virus outbreak will fade during the latter half of 2020.

2. One perspective on the large shocks considered is provided by the changes that occurred during the global financial crisis. At that time, domestic demand in the OECD economies declined by 3¾ per cent between 2008 and 2009.

Policy changes to reduce uncertainty and improve growth prospects in the baseline scenario

Against the background of an already weak global economy and downside risks, the near-term challenges from the coronavirus outbreak reinforce the need for policy actions to contain the spread of the virus, strengthen health care systems, boost confidence and demand, and limit adverse supply effects. Multilateral policy dialogue is essential to agree on appropriate containment and policy measures to restrict the spread of the coronavirus and limit its economic costs. If growth were significantly weaker than projected, co-ordinated policy action within and across all the major economies would provide the most effective and timely counterweight.

Targeted measures are needed in China and the economies most affected by the coronavirus outbreak

An immediate need in all economies, but especially those most affected by the COVID-19 epidemic, is for effective public health measures that prevent infection from spreading. Well-targeted economic policies

are required to help support health care provision, and protect solvent companies and workers from experiencing significant temporary income disruptions because of the coronavirus outbreak.

- First and foremost, additional fiscal support for health services is required, including sufficient resources to ensure adequate staffing and testing facilities, and all necessary prevention, containment and mitigation measures.
- Measures can also be taken to cushion adverse effects of the outbreak on vulnerable social groups. Short-time working schemes, where available, can be utilised to enhance the flexibility of working hours whilst preserving jobs and take-home pay, although such schemes do not protect temporary or migrant workers from lay-offs. Governments can also help households by providing temporary assistance, such as cash transfers or unemployment insurance, for workers placed on unpaid leave, and by guaranteeing to cover virus-related health costs for all, retrospectively if needed.
- In the very short term, the provision of adequate liquidity in the financial system is also a key policy, allowing banks to provide help to companies with cash-flow problems, particularly small and medium-sized enterprises, and ensuring that otherwise solvent firms do not go bankrupt whilst containment measures are in force. Measures that reduce or delay tax or debt payments, or lower the costs of inputs such as energy, for firms in the most affected regions and sectors should be considered. Temporary reductions in the level of reserves banks are required to hold at the central bank could also be implemented if required. Swap lines between major central banks may also need to be utilised, particularly if widespread disruption to trade or a flight to safety by portfolio investors enhances the demand for US dollars.
- In addition to allowing the automatic fiscal stabilisers to work fully, and expanding spending on health services, targeted and temporary fiscal measures could also be implemented to support businesses in sectors particularly exposed to a sharp downturn in travel and tourism. Funds established to reintegrate workers who have lost their jobs due to globalisation could also be utilised. In the European Union, other potential options are to adapt temporarily the state aid framework, as was done at the height of the financial crisis in 2008-09, or to allow more leeway within the EU fiscal rules to affected economies, in recognition of the exceptional circumstances.

More broadly, lower policy interest rates and stronger government spending can help boost confidence and assist with the recovery of demand once the outbreak eases and travel restrictions are removed. However, such measures are less effective in dealing with the immediate supply-side disruptions that result from enforced shutdowns and travel restrictions.

- In China, a wide range of fiscal (including quasi-fiscal) and monetary policy actions have been announced over the past month, as appropriate given the adverse shock to the economy, and should help demand to recover as restrictions on labour mobility are lifted. Scope remains for additional measures if growth weakens further or if policy instruments are less effective than in the past, but careful choices are needed to avoid adding to structural problems such as high corporate debt and ongoing deleveraging challenges.
- Additional precautionary reductions in policy interest rates may also be merited in a number of economies particularly exposed to the coronavirus outbreak, including Korea and Australia. Such measures can help to restore confidence and reduce debt-servicing costs.
- Stronger government investment spending, particularly bringing forward planned repairs and maintenance of the public sector capital stock, could be utilised to help provide a short-term stimulus.

Monetary policy needs to remain supportive

The additional headwinds and uncertainty related to the coronavirus outbreak make it essential for monetary policies to remain supportive in all economies to ensure that long-term interest rates remain low. Policy has already become more accommodative over the past year in many countries, with widespread cuts in interest rates and enhanced forward guidance that policy easing will be forthcoming in both advanced and emerging-market economies, and the restarted net asset purchase programme by the ECB. Moves to enhance monetary policy accommodation are likely to be reflected quickly in asset prices and private sector sentiment. However, after a prolonged period of low or negative policy interest rates the impact of additional monetary policy measures on demand and inflation may be only modest, particularly in the absence of other fiscal and structural policy support.

Conditional on the current growth projections, there is limited need for further reductions in policy interest rates in the United States unless the risks of a sharper growth slowdown rise. The euro area and Japan may face a renewed need to implement additional unconventional measures, with sub-par growth projected to persist and inflation well below target, but have less scope to ease monetary policy substantially. A number of emerging-market economies with flexible exchange rate frameworks and manageable exposures to foreign currency denominated debt, including Brazil, India and Mexico, have scope to further ease monetary policy provided inflation declines, while taking the opportunity to undertake fiscal and structural measures that enhance investor confidence.

Fiscal support needs to be enhanced via stronger public investment

Exceptionally low interest rates provide an opportunity for fiscal policy to be used more actively to strengthen near-term demand, including temporary expenditures to cushion the impact of the coronavirus outbreak on vulnerable social groups and businesses. Provided the effects from the coronavirus epidemic start to fade, the appropriate degree of discretionary support will depend on cyclical developments, the size of the automatic fiscal stabilisers, debt sustainability considerations, and the need to rebalance the policy mix.

- Some discretionary fiscal easing, decided prior to the COVID-19 outbreak, is being undertaken in a number of advanced economies this year, including Canada, Germany, Japan, Korea and the United Kingdom. Additional stimulus measures could be implemented without endangering debt sustainability in a number of economies, including Australia and Germany.
- The scope for sizeable discretionary fiscal easing is limited in some advanced countries with relatively high debt and budget deficits, but governments can still support economic activity by changing the structure of spending and taxes towards areas and actions that help to contain the effects of virus outbreaks and help support economic growth and incomes.
- A tighter fiscal policy stance, including stronger constraints on the use of quasi-fiscal measures, remains necessary in many emerging-market economies, including Brazil and India, but this should be achieved whilst safeguarding social transfers to low-income groups and support for investment, both public and private.

Looking ahead, this episode of weak growth reinforces the need for stronger public investment in many countries, broadly defined to include education and health care spending, to support demand and boost medium-term living standards. After an extended period of spending restraint since the global financial crisis, signs of a shortage of public capital have begun to emerge in several economies, particularly in the euro area. With long-term interest rates close to zero in many advanced economies, the social rate of return on public investment is likely to exceed the financing costs for many projects. Investment is particularly needed in areas that have large positive externalities for the rest of the economy and where under-investment might otherwise occur due to market failures, including health, education, and digital and environmental infrastructures. Enhanced use of strategic infrastructure plans that integrate central and

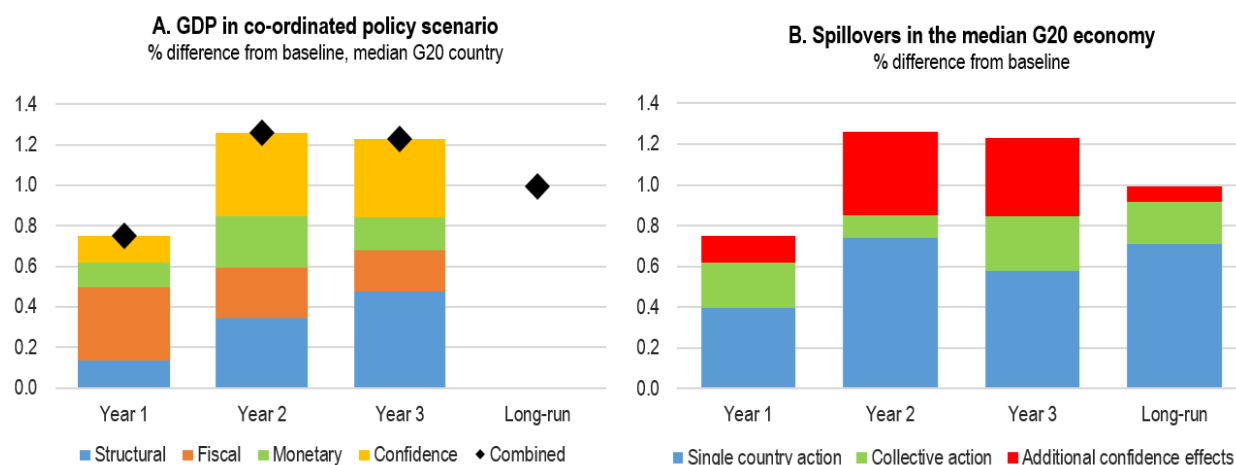
sub-central governments, or special public investment funds, could help to prioritise and support long-run large scale investment projects.

Globally co-ordinated and more forceful actions are required if downside risks materialise

If downside risks materialise, including a much wider spread of the coronavirus outbreak, and global growth looks set to be much lower than projected, governments could be faced with the challenge of having to respond to significant weakness at a time when domestic policy space is limited. In addition to temporary measures to support viable businesses and vulnerable workers, co-ordinated policy actions across all the major economies would be needed to ensure effective health-care provision around the world and provide the most effective stimulus to the global economy. Additional fiscal and monetary policy support and enhanced structural reforms in all countries would help restore growth, improve the confidence of consumers and investors and reduce uncertainty.

Illustrative simulations for the G20 economies highlight the benefits of economic policy co-operation. The particular set of co-ordinated fiscal, monetary and structural measures considered includes a debt-financed fiscal easing of 0.5% of GDP in all countries for three years, reductions in policy interest rates in the majority of economies, and additional competition-enhancing reforms. Taken together, these raise the level of GDP by around $\frac{3}{4}$ per cent in the first year in the median G20 economy (Figure 9, Panel A) and by $1\frac{1}{4}$ per cent in the second year, with the level of output permanently higher in the longer term. In all G20 countries, there are clear gains from collective action relative to those from each country acting by itself (Figure 9, Panel B). This is because co-ordinated action creates positive spillover effects through trade and improved confidence, resulting in a larger overall output gain in each country than if they acted alone.

Figure 9. The benefits of G20 policy co-ordination



Note: Scenario in Panel A with all G20 economies simultaneously undertaking changes to fiscal, monetary and structural policies. Countries undertake additional debt-financed public expenditure of 0.5% of GDP for three years, monetary policy becomes more accommodative in economies with policy interest rates above zero (all countries excluding Japan and those in the euro area) and productivity-enhancing structural reforms occur raising TFP by 1% after five years. Confidence is modelled by a 50 basis point reduction in investment and equity risk premia for two years, which slowly fades.

Source: OECD calculations using the NiGEM macroeconomic model.

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